

NASA CR-151938

(NASA-CR-151938) WIND TUNNEL TEST ON A
1/4.622 FROUDE SCALE, HINGELESS ROTOR, TILT
ROTOR MODEL, VOLUME 3 (Boeing Vertol Co.,
Philadelphia, Pa.) 709 P NO 499/EE A11

N77-17003

Unclass

CSCL C1A G3/02 16285

WIND TUNNEL TEST ON A 1/4.622 FROUDE SCALE, HINGELESS ROTOR, TILT ROTOR MODEL

VOLUME III

J. P. Magee

H. R. Alexander

September 1976

Prepared under Contract NAS2-9015

for

National Aeronautics and Space Administration

Ames Research Center

by

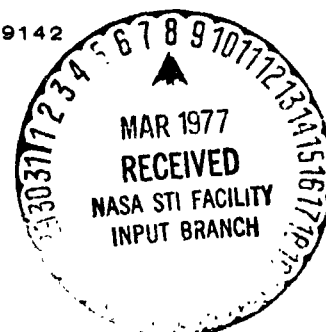
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FROUDE SCALE, HINGELESS ROTOR,
TILT ROTOR MODEL

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ISSUE NO. _____ ISSUED TO: _____

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PREPARED BY	<u>H. R. Alexander</u> H. R. Alexander	DATE	<u>9/14/76</u>
APPROVED BY	<u>W. C. Boehm</u> W. C. Boehm	DATE	<u>9/14/76</u>
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APPROVAL

ABSTRACT

This document is Volume III of four volumes of experimental data obtained on a wind tunnel test of a 1/4.62 Froude scale hingeless rotor tilt rotor model. The test generated parametric data from hover, through transition and out to 300 knots full scale speed in cruise, and was performed under NASA Contract NAS2-9015.

This volume contains transition data files.

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FOREWORD

This report was prepared by the Boeing Vertol Company of Philadelphia, Pennsylvania for the National Aeronautics and Space Administration, Ames Research Center under NASA Contract NAS2-9015.

Mr. M. A. Shovlin and Mr. T. Galloway of Ames Research Center were technical monitors for this work.

The Boeing Program Manager was Mr. J. P. Magee. The contributions of the Boeing Vertol Wind Tunnel staff are acknowledged.

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LIST OF SYMBOLS

<u>SYMBOL</u>	<u>NOMENCLATURE</u>	<u>UNITS</u>
A_1	Lateral cyclic pitch	Deg
B_1	Longitudinal cyclic pitch	Deg
b	Span	Ft
CTB-L	Left Rotor Thrust Coefficient	$\frac{T_L}{\rho \pi R^2 V_T^2}$
CPB-L	Left Rotor Power Coefficient	$\frac{HP_L \times 550}{\rho \pi R^2 V_T^3}$
CNFB-L	Left Rotor Normal Force Coefficient	$\frac{NF_L}{\rho \pi R^2 V_T^2}$
CSFB-L	Left Rotor Side Force Coefficient	$\frac{SF_L}{\rho \pi R^2 V_T^2}$
CPMB-L	Left Rotor Pitching Moment	$\frac{PM_L}{\rho \pi R^3 V_T^2}$
CYMB-L	Left Rotor Yawing Moment	$\frac{YM_L}{\rho \pi R^3 V_T^2}$
CTB-R	Right Rotor Thrust Coefficient	$\frac{T_R}{\rho \pi R^2 V_T^2}$
CPB-R	Right Rotor Power Coefficient	$\frac{HP_R \times 550}{\rho \pi R^2 V_T^3}$
CNFB-R	Right Rotor Normal Force Coefficient	$\frac{NF_R}{\rho \pi R^2 V_T^2}$
CSFB-R	Right Rotor Side Force Coefficient	$\frac{SF_R}{\rho \pi R^2 V_T^2}$
CPMB-R	Right Rotor Pitching Moment	$\frac{PM_R}{\rho \pi R^3 V_T^2}$

LIST OF SYMBOLS (continued)

<u>SYMBOL</u>	<u>NOMENCLATURE</u>	<u>UNITS</u>
CYMB-R	Right Rotor Yawing Moment	$\frac{Y_{M_R}}{\rho \pi R^3 V_T^2}$
CLW-AC	Aircraft Lift Coefficient	$\frac{\text{Lift}}{1/2 \rho V^2 S}$
CSFW-AC	Aircraft Side Force Coefficient	$\frac{SF}{1/2 \rho V^2 S}$
CAFN-AC	Aircraft Axial Force Coefficient	$\frac{\text{Axial Force}}{1/2 \rho V^2 S}$
CPMW-AC	Aircraft Pitching Moment	$\frac{\text{Pitch Moment}}{1/2 \rho V^2 S \bar{c}}$
CYMW-AC	Aircraft Yawing Moment	$\frac{\text{Yaw Moment}}{1/2 \rho V^2 S b}$
CRMW-AC	Aircraft Rolling Moment	$\frac{\text{Roll Moment}}{1/2 \rho V^2 S b}$
\bar{c}	Wing Chord	FT
D	Diameter	-
D'	Airframe Drag	LB
EI_{FLAP}	Flapwise Bending Stiffness	-
EI_{CHORD}	Chordwise Bending Stiffness	-
FM	Figure of Merit	-
GJ	Torsional Stiffness	-
GW	Gross Weight	LB
HP	Rotor Horsepower	HP
I_{xx}, I_{yy}, I_{zz}	Mass Moment of Inertia about the Three Axes	IN-LB SEC ²
I_N	Nacelle Incidence	Deg
I_p	Acceleration Pitch Inertia	-
H_z	Hertz	-

LIST OF SYMBOLS (continued)

<u>SYMBOLS</u>	<u>NOMENCLATURE</u>	<u>UNITS</u>
I_p^*	Centrifugal Pitch Inertia	-
I_{PIVOT}	Moment of Inertia - Polar	LB-FT
i_w	Wing Incidence	Deg
L	Lift	LB
NA	Neutral Axis	-
p	Per Rotor Revolution	-
PM	Pitching Moment	FT LB
q	Freestream Dynamic Pressure $1/2\rho V^2$	LB/FT ²
R	Rotor Radius	FT
r	Radial Location to a Blade Station	FT
RM	Rolling Moment	FT LB
S	Wing Area	FT ²
SF	Side Force	LB
T	Rotor Thrust	LB
t	Airfoil Thickness	FT
V	Freestream Velocity	FT/SEC
V_T	Rotor Tip Speed	FT/SEC
X	Aircraft Propulsive Force	LB
X/R or r/R	Non-Dimensional Radius	-
YM	Yawing Moment	FT LB
α	Angle of Attack	-
α_f	Fuselage Pitch Deflection	Deg
α_s	Nacelle Shaft Pitch Deflection	Deg

LIST OF SYMBOLS (continued)

<u>SYMBOLS</u>	<u>NOMENCLATURE</u>	<u>UNITS</u>
β	Side Slip Angle	Deg
δ_A	Aileron Deflection	Deg
δ_F	Flap Deflection	Deg
∂	Partial Derivative Operator	-
Δ	Increment In Coefficient	-
$\Delta\theta$	Incremental Blade Pitch	-
ρ	Density of Air	LB SEC ² /FT ⁴
σ	Rotor Solidity $\frac{bCR}{\pi R^2}$	-
ψ	Rotor Azimuth Angle	Deg
θ_{75}	Rotor Blade Collective Pitch at the Three Quarter Radius	Deg
μ	Advance Ratio V/V_T	-
ω_α	Wing Torsional Frequency	cps
ω_β	2nd Mode Bending Blade Frequency	-
ω_C	Wing Chordwise Bending Frequency	cps
ω_L	1st Mode Bending Blade Frequency	-
ω_p	Aircraft Pitch Frequency	cps
ω_v	Wing Vertical Bending Frequency	cps
Ω	Rotor Angular Velocity	-
$1\Omega, 2\Omega$	Integer Frequency Ratio	-
$\Omega - \omega_l$	Lower Blade Lag Rotational Frequency	cps
$\Omega + \omega_\beta$	Upper Blade Flap Rotational Frequency	cps
$\Omega - \omega_\beta$	Lower Blade Flap Rotational Frequency	cps

LIST OF SYMBOLS (continued)

<u>SYMBOLS</u>	<u>NOMENCLATURE</u>	<u>UNITS</u>
ζ_v	Wing Vertical Bending Damping % Critical	-
ζ_c	Wing Chord Bending Damping % Critical	-
ζ_α	Wing Torsion Damping % Critical	-

1.0 INTRODUCTION

This document contains wind tunnel test data obtained on a 1/4.622 scale dynamically similar model of a tilt rotor aircraft which has composite hingeless blades. The test was performed under NASA contract NAS2-9015.

The objective of the test was to generate information on the behavior of rotor and airframe effects over a range of flight parameters representing the complete operating envelope of the tilt rotor vehicle. The information which was required included the magnitude and sensitivity of:

- (1) Rotor forces and moments
- (2) Blade loads and pitch link loads
- (3) Wing rotor interference effects
- (4) Airframe forces and moment

for values of such flight parameters as:

- (1) Nacelle tilt angle
- (2) Forward speed
- (3) Aircraft attitude in pitch and yaw
- (4) Collective and cyclic pitch control
- (5) Wing flap deflection

The selection of test points and true variations for parameters was made in such a way that a comprehensive set of data was obtained for all potential flight conditions through hover, a wide envelope of transitions, and cruise at speeds up to 300 knots.

The purpose of this acquisition of comprehensive rotor and airframe test data is to provide the knowledge and basis for understanding rotor and airframe behavior which is an essential prerequisite to the development of an efficient system of integrated rotor and aircraft controls.

A secondary objective of the test was to determine the feasibility of a control system which minimizes blade loads in cruise. The characteristic feature of this system is the use of cyclic pitch geared by a simple mechanical linkage to the motion of the stick and control surfaces. These must be properly phased and scheduled to achieve good flying qualities in all flight regimes, subject to the overall design requirement of an optimal control system to maintain simplicity and reliability as far as is consistent with the loads, maneuver envelope and flying qualities of the aircraft.

The rotor controls provide a major portion of the control capability from hover through the low transition speed range, although the conventional control surfaces are operative in all regimes of flight including hover. As speed is increased, and the aerodynamic surfaces become effective for trim and control, the rotor controls can be directed at minimizing rotor loads. In cruise the problem reduces to determining the rotor control required to maintain minimum loads. Prior to this test, a limited amount of full scale experimental data existed for transition, and for cruise up to speeds of 192

knots. This test program extends the range of this data in the transition regime, and in cruise flight the range was extended up to the simulated speed of 300 knots.

The data obtained on this test goes a long way toward providing the information which is necessary to tackle the job of designing an optimized and integrated control system for a tilt rotor aircraft using a soft inplane hingeless rotor. Work which remains to be done involves reducing the data obtained in the test, to an analytical format with forces, moments, loads, etc., expressed as functions of the relevant flight parameters. This is necessary for two reasons:

- (1) to provide an understanding of the significance and relative importance of the parameters which will permit efficient planning of future full scale tests
- (2) to provide a set of simple functions representing the body of test data, from which the rotor effects may be calculated within the context of a real time simulation

This reduction of the test data to analytical functions of the parameters is beyond the scope of the current contract. It is planned that this additional step will be accomplished in the near future under separate funding.

The data obtained during this test is presented in four volumes.

Volume I contains a detailed description of the model, the test installation, test procedures and data reduction: for the convenience of the user, an abbreviated discussion of these is included in Volumes II, III and IV. It was felt that the amount of data generated was too voluminous to be readily presented in a single volume, and Volumes II, III and IV present all the data in a logical sequence.

2.0 DESCRIPTION OF MODEL AND DATA FILE SYSTEM

This section of the report contains an abbreviated description of the model and also an explanation of the order in which the data are presented and identifies the values of test variables held constant in any given test run.

2.1 Model Description

The model tested is a 1/4.622 scale full span, powered configuration that is Froude scaled from the Model 222 Tilt Rotor Research aircraft. This model, shown in Figure 1 was provided by the contractor for this test program and has the following major dynamically-scaled components.

1. Two 3-bladed rotors
2. Two nacelles
3. Full span wing
4. Fuselage
5. Tail

Basic model dimensions are shown in Table 1. The rotors are defined in Figure 2 and have the same aerodynamic and aeroelastic characteristics as the full scale rotor built under NASA contract NAS2-6505. It has remote controlled collective pitch and two axes cyclic pitch actuation systems.

The nacelles are joined to the wing by a pivot and have remote pitch actuation.

TABLE 1
MODEL DIMENSIONS

ROTOR

Number of Blades	3
Radius	33.75 IN. (85.72 cm)
Chord	4.078 IN. (10.35 cm)
Twist	42.5 DEG.
Airfoil Section	23021/23010-1.58
Solidity	0.115
Rotor Speed (Hover)	1185 RPM
Rotor Speed (Cruise)	825 RPM
Collective Pitch Available	-5 to 65 DEG.
Cyclic Pitch Available	+ 10 DEG.

NACELLE

Nacelle Pivot Position (in % of Wing Chord)	40%
Rotor Disc Nacelle Pivot Distance	12.33 IN. (31.31 cm)

WING

Airfoil Section	634221 Modified
Span (Rotor ξ to Rotor ξ)	86.76 IN. (220.37 cm)
chord	15.53 IN. (39.44 cm)
Area	9.36 FT. ² (.869 M ²)
Aspect Ratio	5.61
Flap in % of Chord	30%
Wing Incidence	2 DEG.
Thickness - Chord Ratio	0.21

FUSELAGE

Diameter	14.69 IN. (37.31 cm)
Length	102.50 IN. (260.35 cm)

TAIL - HORIZONTAL

Area	2.73 FT. ² (.253 M ²)
Span	10.89 IN. (27.66 cm)
Aspect Ratio	4.25
Taper Ratio (C _{TIP} /C _{ROOT})	.384
Root Chord	14.05 IN. (35.68 cm)
Airfoil Section	64A010
Elevators in % of Chord	44.1%

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TABLE 1 (continued)TAIL - VERTICAL

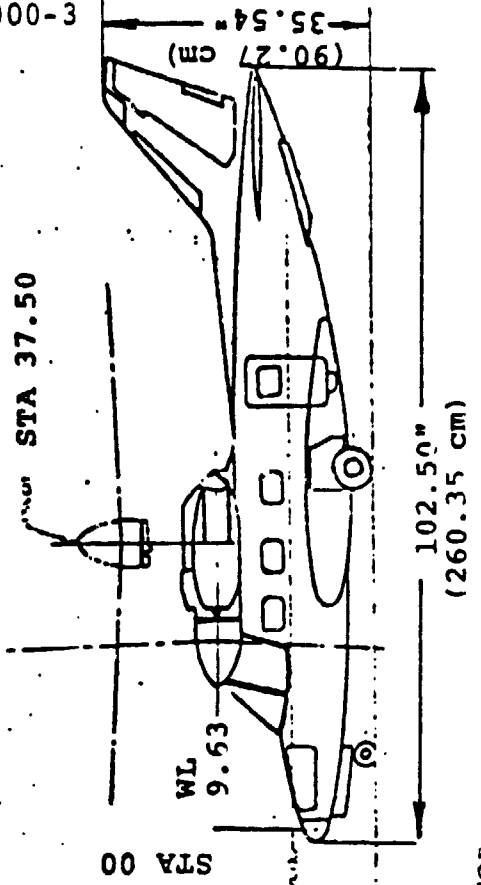
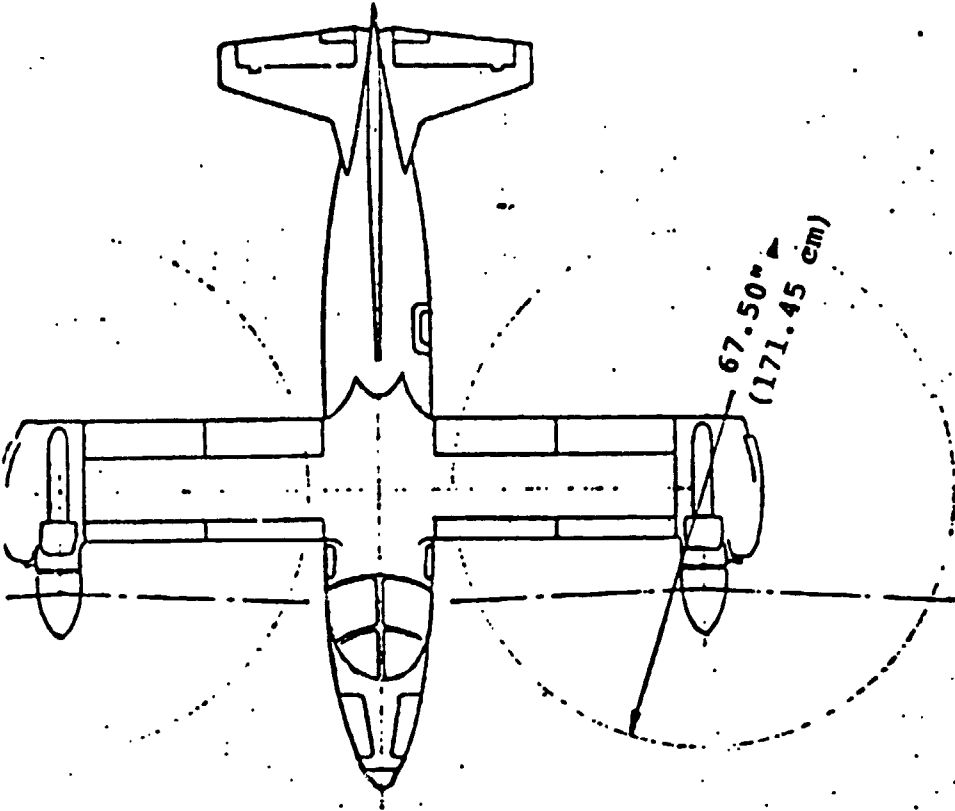
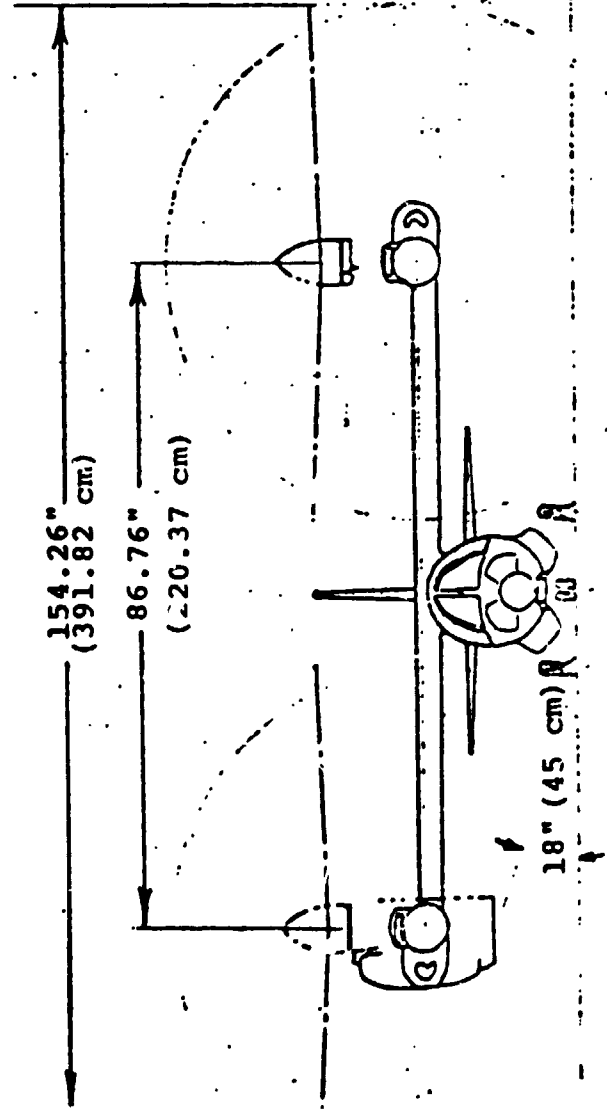
Area	2.03 FT ²	(.185 M ²)
Span	22.75 IN.	(57.78 cm)
Aspect Ratio	1.77	
Taper Ratio (C _{TIP} /C _{ROOT})	.35	
Root Chord	20.98 IN.	(53.29 cm)
Airfoil Section	64A008	
Rudder in % of Chord	50.6	

ROTOR

Diameter	67.50 In.	(171.45 cm)
Solidity	.115	
No. Blades	3	

WEIGHTS

Design Gross Wt	122 Lbs (55.35 Kg)
-----------------	--------------------



D238-10000-3

85.72 ci

ROTOR RADIUS = 3.75
3 BLADES/ROTOR

TWIST REFERS TO
BOEING REFERENCE LINE

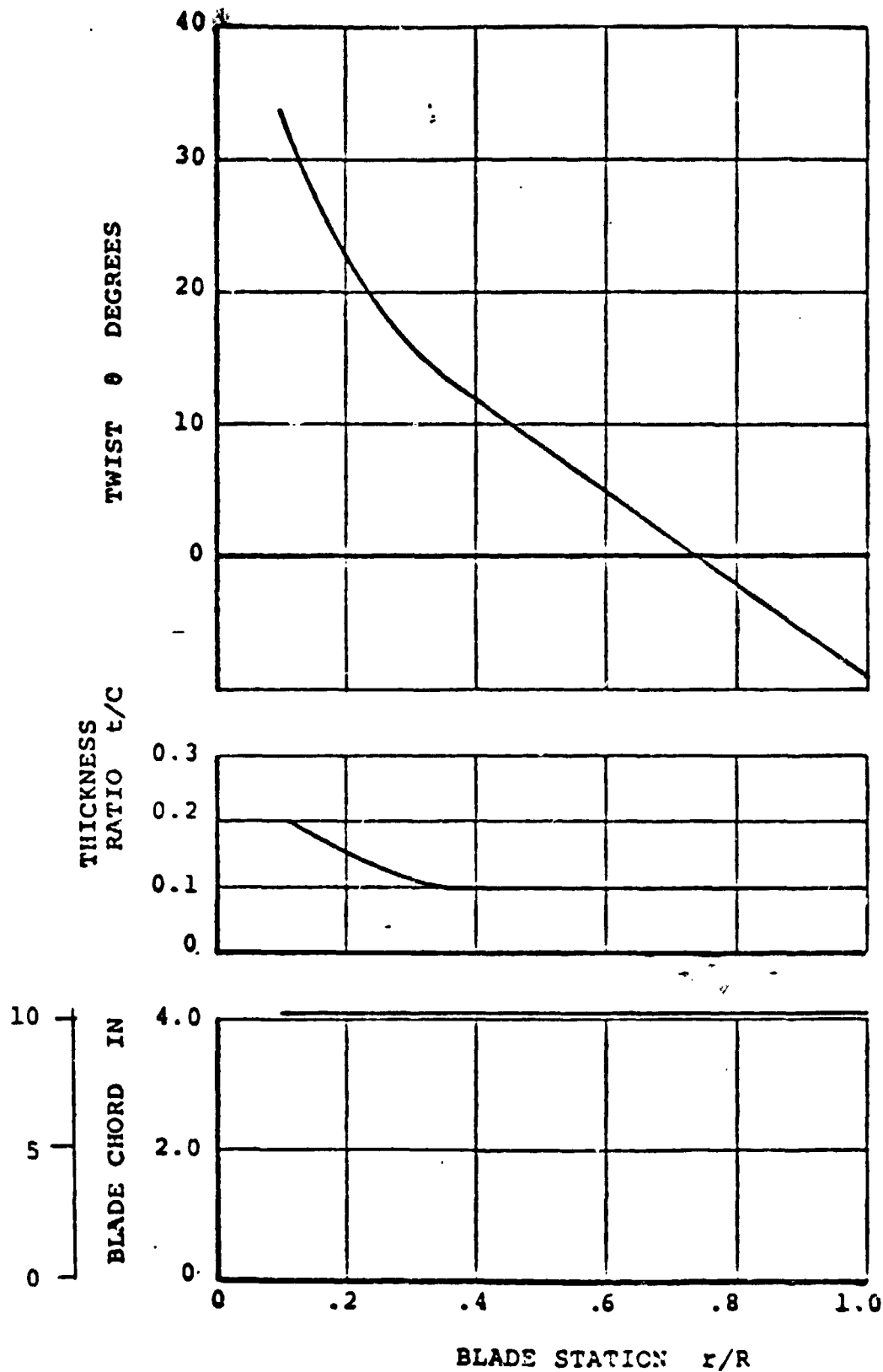


FIGURE 2. 1/4.622 FROUDE SCALE MODEL BLADE DEFINITION

The wing is crown mounted and has full span flaps and leading edge umbrellas for download alleviation. Flaps are used during transition to provide additional lift and the outboard section of the flap is used as an aileron for control in conjunction with outboard spoilers.

The wing, fuselage, and empennage are dynamically scaled from the Model 222 aircraft and the rudder and elevator are remotely controlled. The model was supported on a pedestal mount with pitch and yaw capability.

The primary instrumentation includes strain gages to obtain flap, chord and torsion loads at the blade root. A six component balance in each nacelle measures the rotor forces moments and torque. A six component main balance located in the fuselage measures aircraft forces and moments. Position indicators connected to meters provide a visual display of the aircraft control positions which were remotely controlled. Each rotor has an RPM and 1/rev output. Thermocouple readouts provided safety monitoring of critical motor, gearbox and cross shaft bearing temperatures.

The model is powered by a 20 HP, 11,375 RPM electric motor manufactured by Task Corporation. The motor drives a 3.04:1 reduction gear box in the center fuselage which is connected by cross shafts in the wing to a 3.09:1 reduction gear box in each nacelle. This provides a total gear reduction from the electric motor to rotor of 9.39:1.

Photographs of the model and detailed model data are provided in Volume I Reference .

Figure 3 shows the model mounting on the SRH teststand which provides pitch and yaw motion to the model. The dimensions associated with the balance centers (both main and nacelle balances) in relation to the hub center and aircraft CG reference location are shown in Figure 4.

The rotor cyclic controls are not located in the classical axis system. Figure 5 shows the location of the actuators in the azimuth and the blade location when the pitch arm is over the actuator. This defines the cyclic axis system used on test.

Sign conventions used for defining the measured forces and moments are depicted in Figure 6. The directions shown being positive forces and moments.

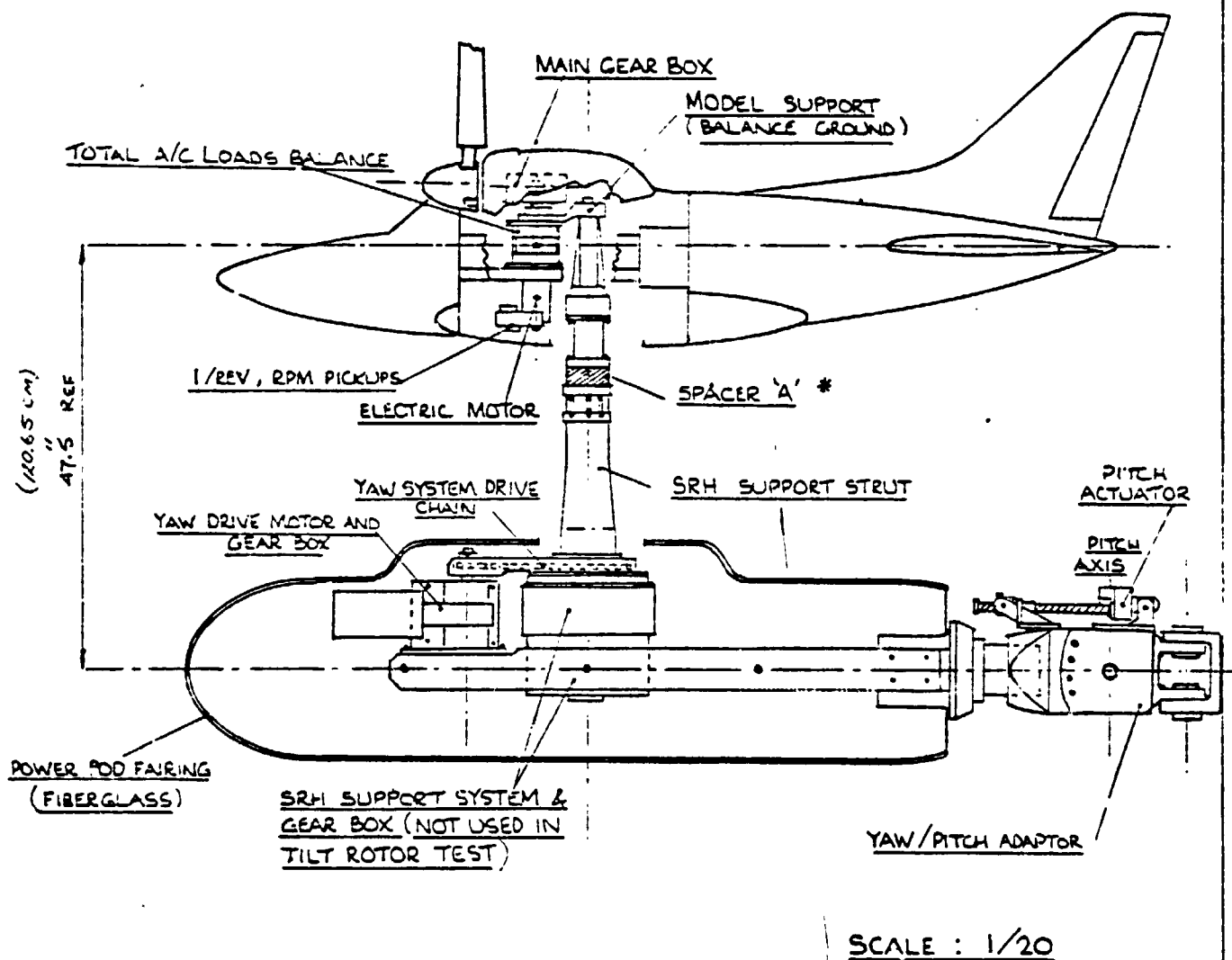
Positive pitch and yaw directions are in the same sense as positive pitch and yaw moments.

In order to provide a ready transformation of model data to full scale, a table of scale factors is given in Table 2.

2.2 Data File Index System

The procedure adopted on test is best explained by referring to Figure 7. This figure depicts the combinations of nacelle incidence I_N and airspeed (shown full scale) selected for

- * FOR RUNS 1-26 SPACER 'A' WAS 20" LONG ('DUMMY' SRH BALANCE).
 FOR RUNS 27-35 SPACER REPLACED BY SRH BALANCE (20" LONG).
 FOR RUNS 36-166 SPACER 'A' FITTED AS DRAWN (2" LONG).



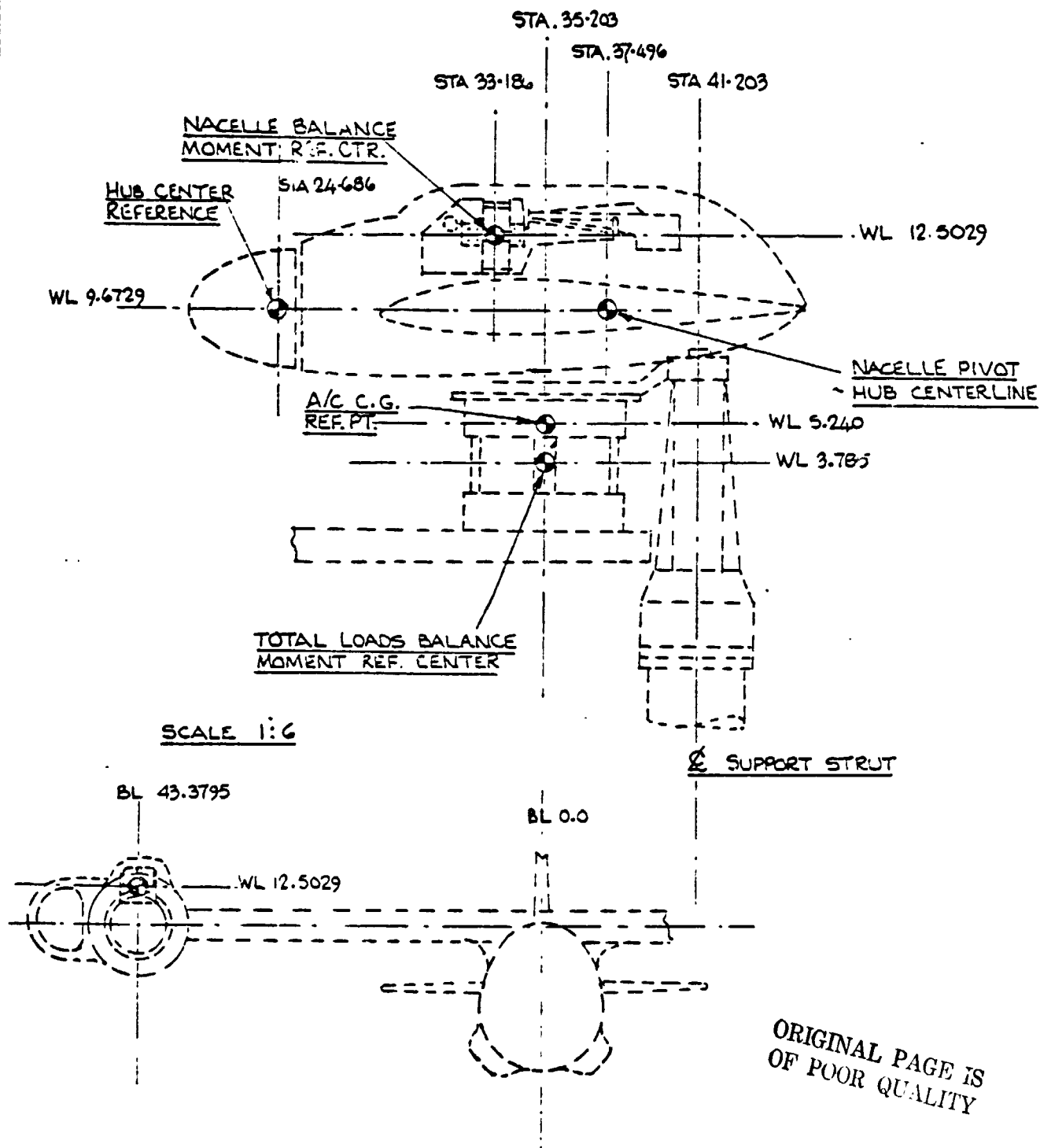
VR 095Q-1 ~ 1/4.622 SCALE TILT ROTOR MODEL

Figure 3. GENERAL ARRANGEMENT AND INSTALLATION ON SRH TEST STAND

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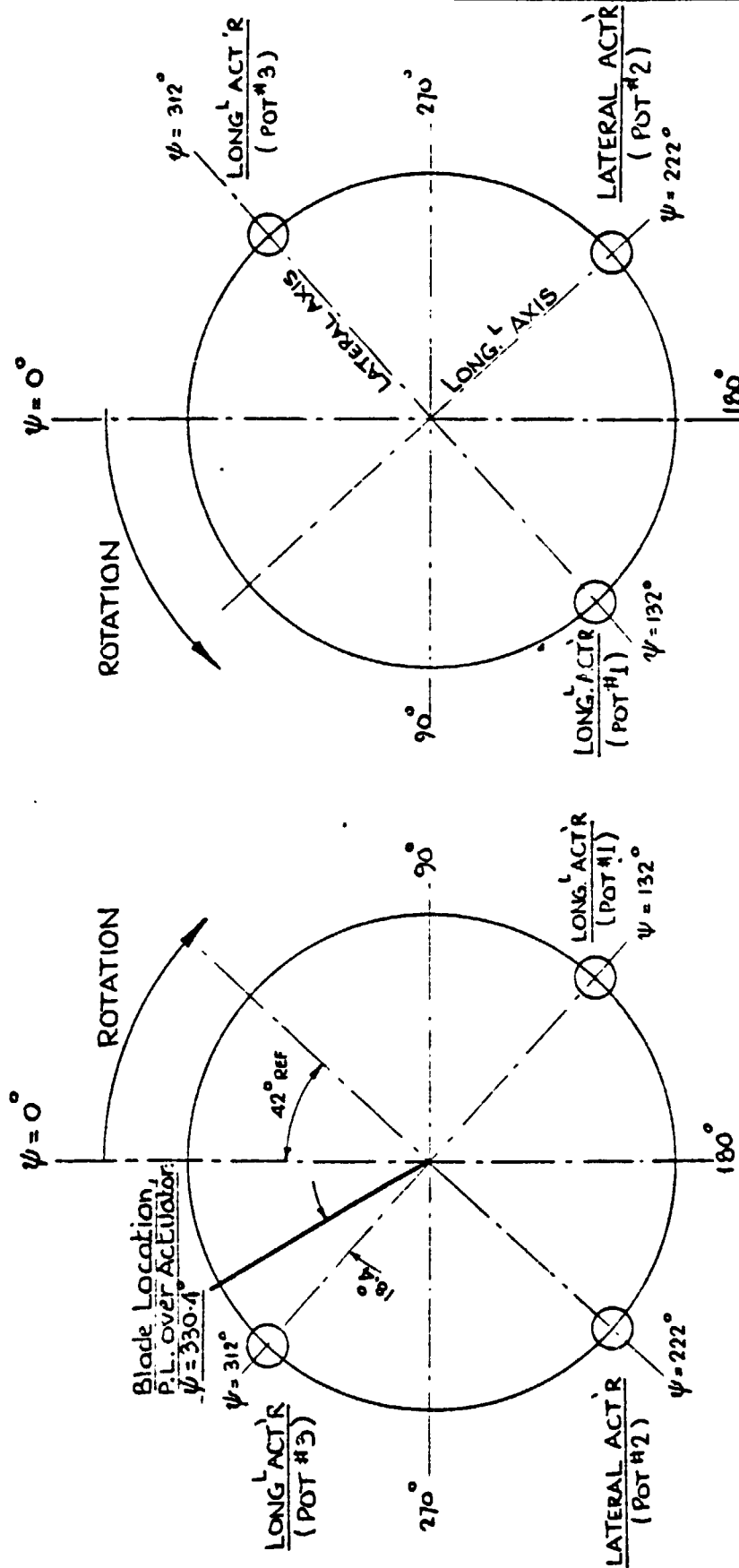
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VR 095 Q-1 . 1/4.622 SCALE TILT ROTOR MODEL

Figure 4. RELATIVE BALANCE LOCATIONS & MODEL REFERENCES



VR 095 Q-1 1/4.622 SCALE TILT ROTOR MODEL
Figure 5. CONTROL SYSTEM ARRANGEMENT

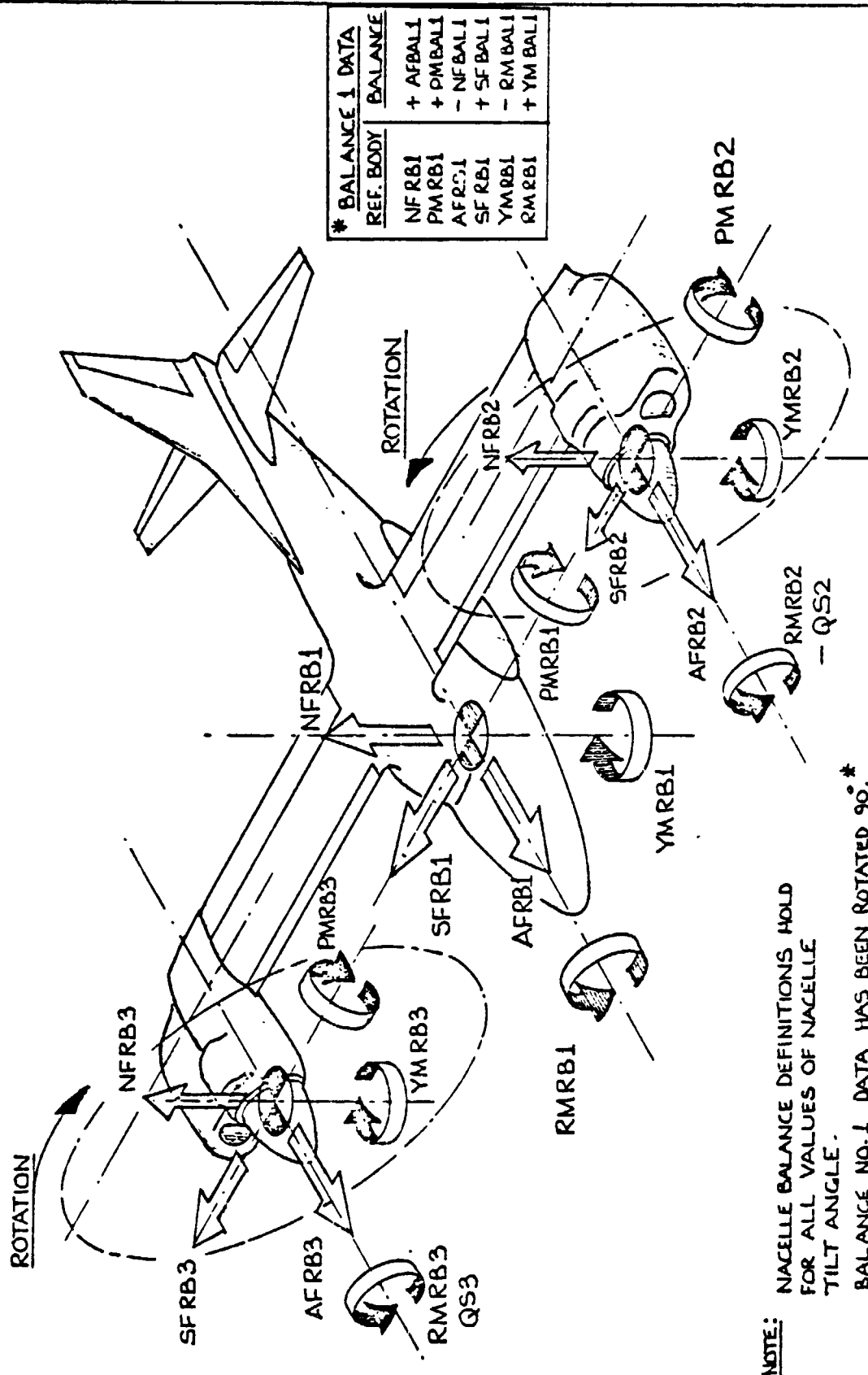


Figure 6. VR 095 Q-1 1/4.622 SCALE TILT ROTOR MODEL
DEFINITION OF MODEL FORCES & MOMENTS REFERRED TO REF. BODY AXES

SCALE FACTORS

LINEAR DIMENSIONS	4.622
MASS OR WEIGHT	98.739
TIME	2.15
FREQUENCY	0.46514
VELOCITY	2.15
VISCOUS DAMPING	45.927
STIFFNESS	2109.36
SPRING RATE	21.363
MASS MOMENT OF INERTIA	2109.36
FORCE	98.739
STRAIN	1.0
MOMENT OR TORQUE	456.373
POWER	212:278
PER REV FREQUENCY	1.0
DISC LOADING	4.622
MACH NO.	2.1498
FROUDE NO.	1.0
LOCK NO.	1.0

INITIAL TEST CONDITIONS

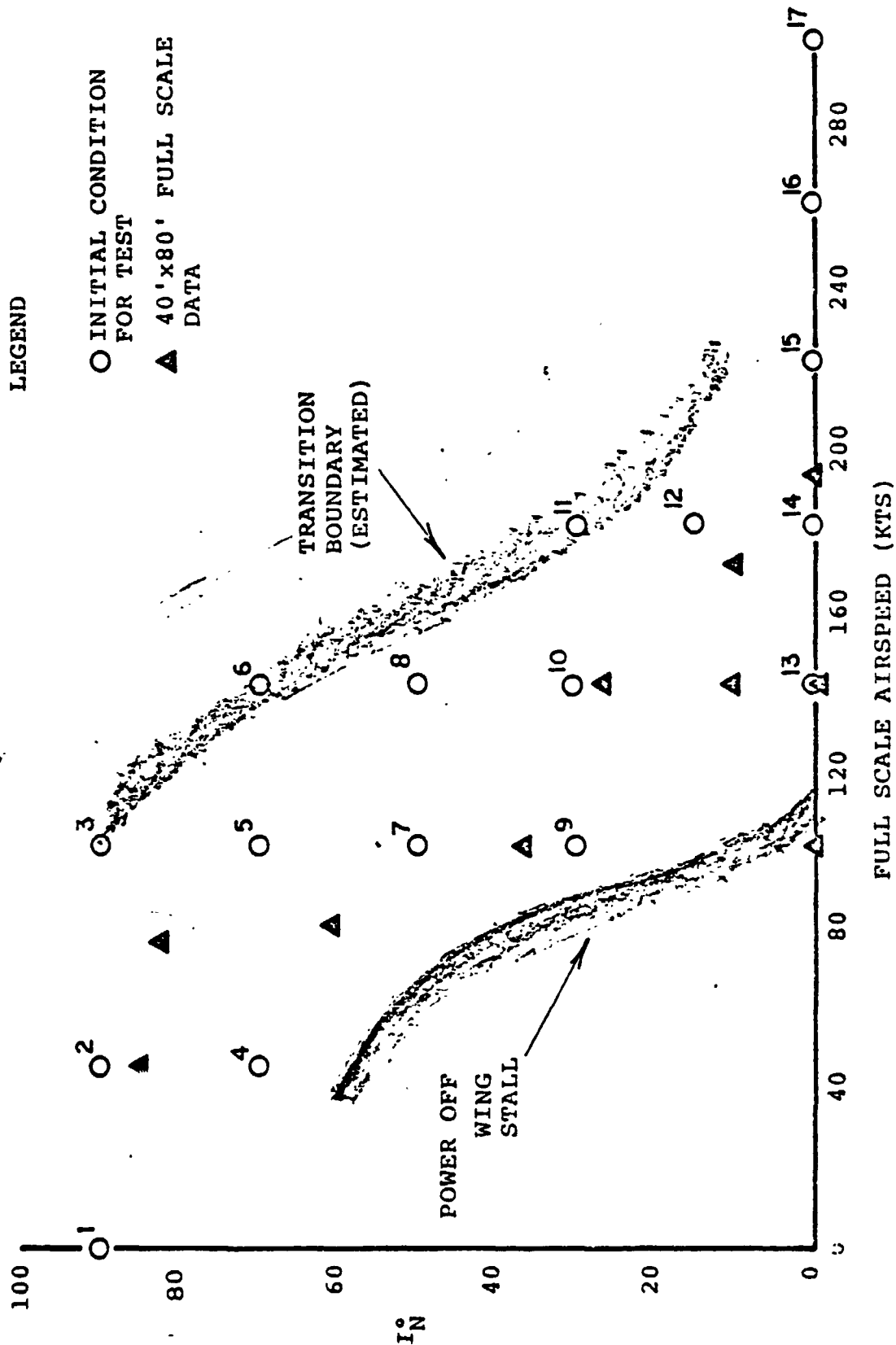


Figure 7. Scope of Test; Initial Test Conditions

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initial test conditions. Seventeen initial test conditions are shown and numbered. Data obtained at conditions 1 through 4 is to be found in Volume I. This report contains data from conditions 9, 10, 11 & 12 which are $I_N = 30^\circ$ and 15° at full scale airspeeds of 100, 140 and 180 knots.

The rest of the transition data (conditions 5, 6, 7 and 8) is to be found in Volume II and the cruise flight data (conditions 13 through 17) in Volume IV.

At each initial test condition an approximate aircraft trim altitude was set up and the following variables exercised in turn, angle of attack, yaw angle, longitudinal cyclic pitch, lateral cyclic pitch, collective pitch, wing flap setting and RPM. Each data file corresponding to an initial flight condition contains the six components of force and moment (and power) on the left rotor, the right rotor and also the total airframe forces and moments. This data is followed by alternating chord bending, flap bending and pitch link loads on the left and right rotor respectively. The test variables are first plotted versus α then yaw, etc. as depicted in Table 3. Each appendix number corresponds to a flight condition. For example appendix 9 corresponds to flight condition 9 which is $I_N = 30^\circ$ at a speed which is representative of full scale 100 knots. Thus Figures 9-001 through 9-024 are the measured data as functions of α . Figures 9-025 through 9-048 are the measured data as

TRANSITION DATA ORGANIZATION

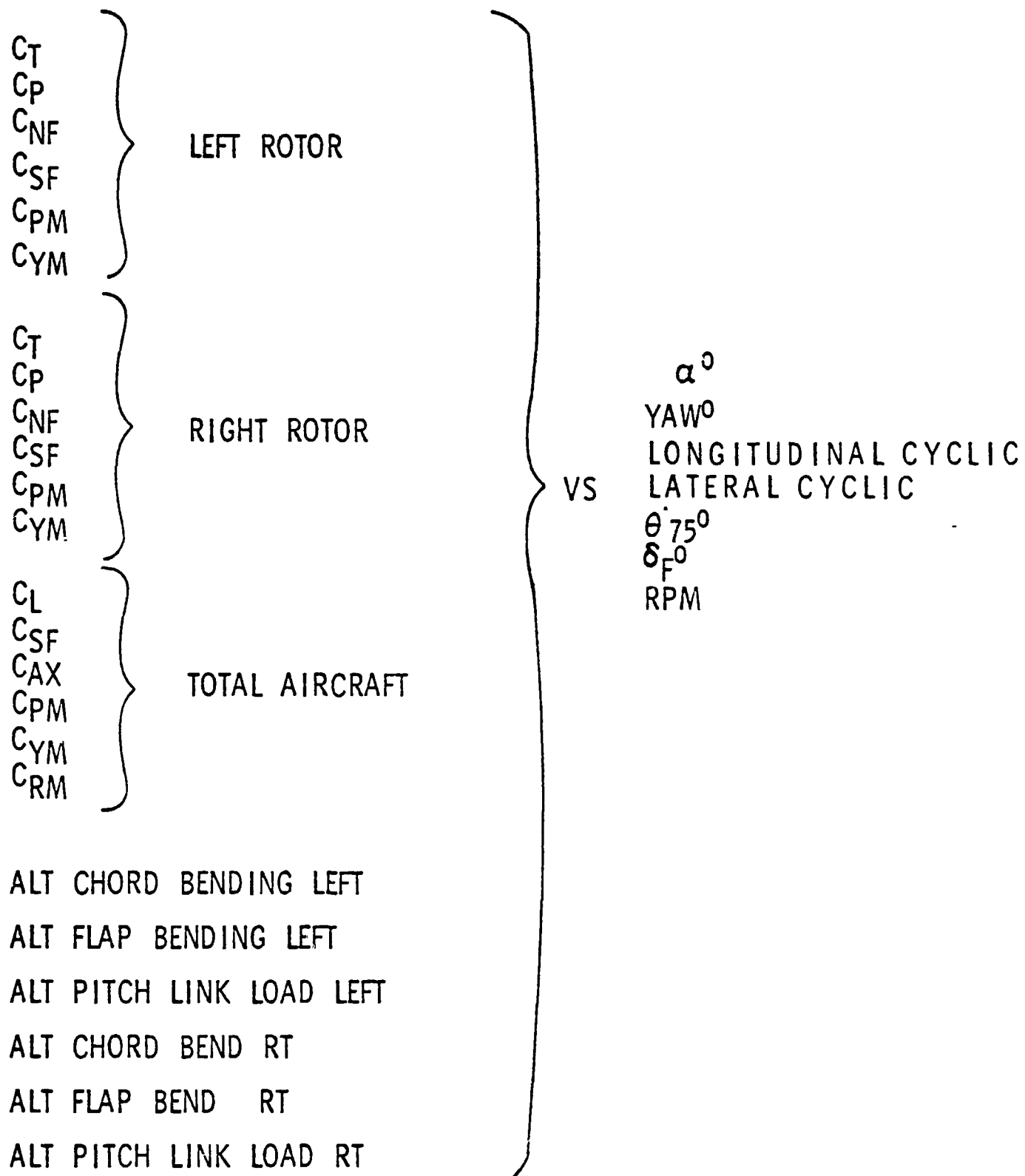


TABLE 3. TEST VARIABLE PLOTTING SEQUENCE

functions of yaw angle and so on. This organization and sequencing of test information is only changed when measured data were found to be spurious for reasons of instrumentation failure, etc. as noted in the instrumentation log given in Volume I.

Section 3 of this report contains notes pertaining to the data sets shown in this document and provides an account of the cases where data was found to be in error and discarded and also those cases where although no proof of error is apparent the information should be treated with caution. Fortunately, these cases amount to a small fraction of the overall results.

One further notation is necessary before the data provided can be usefully interpreted. During a run where one test variable is being exercised it is necessary to know the constant values of the other test variables. These data are identified in Table 4 for test conditions 9 through 12 and are referenced by data set number, figure number and test variable name all of which are also given on the corresponding data graphs in the appendix. Thus for data set 9 the test constants during the angle of attack sweep on Run 89 (Data figures 9-001 to 9-024) can be obtained from Table 4 as

V Full Scale (Kts)	99 Kts.
α fuse	Variable

238-10000-3

TEST VARIABLES HELD CONSTANT

CONDITION	PARAMETER VARIED	FIGURES	V	α_{FUSE}	IN	RPM	θ_{75L}	A_{1L}	B_{1L}	δ_{FL}	θ_{75R}	A_{1R}	B_{1R}	δ_{FR}	β	DATA SET
TRANSITION IN = 30° VFS = 100 KTS	α YAW ANGLE LONG. CYC. LAT. CYC. δ_{75} δ_{FLAP} RPM	1-24	100		26	1063	20.0	2.8	3.4	30.0	18.2	3.7	3.8	30.0	0	9 ↓
		25-48	100	3.5	28	1063	20.6	2.8	3.4	30.0	18.2	3.7	3.6	30.0	0	
		49-72	100	3.5	29	1063	20.7	2.8		30.0	18.0	3.6		30.0	0	
		73-96	100	3.5	29	1063	20.8		3.6	30.0	18.1		3.6	30.0	0	
		97-120	100	3.5	29	1063		3.1	3.4	30.0		3.7	3.5	30.0	0	
TRANSITION IN = 30° VFS = 140 KTS	α YAW ANGLE LONG. CYC. LAT. CYC. δ_{75} δ_{FLAP} RPM	121-144	100	3.5	30	1063	20.7	3.1	3.5		18.1	3.8	3.5		0	10 ↓
		145-168	100	3.5	30		20.7	3.1	3.5	30.0	18.1	3.8	3.5	30.0	0	
		1-24	140		30	1065	28.8	4.5	4.0	33.0	26.9	5.1	4.3	32.0	0	
		25-48	140	-3.0	30	1065	29.0	4.5	3.9	33.0	27.1	5.0	4.4	32.0	0	
		49-72	140	-3.0	30	1064	29.0	4.4		33.0	26.0	5.0		32.0	0	
TRANSITION IN = 30° VFS = 180 KTS	α YAW ANGLE LONG. CYC. LAT. CYC. δ_{75} δ_{FLAP} RPM	73-96	140	-3.0	30	1064	29.0		3.9	33.0	27.0		4.4	32.0	0	11 ↓
		97-120	140	-3.0	30	1065		4.4	3.7	33.0		5.0	4.3	32.0	0	
		121-144	140	-3.0	30	1063	29.1	4.4	3.9		27.0	5.1	4.3		0	
		145-168	140	-3.0	30		29.1	4.4	3.9	31.0	27.0	5.1	4.3	31.0	0	
		1-24	180		30	1065	32.1	6.0	5.0	30.0	32.3	6.0	5.3	30.0	0	
TRANSITION IN = 15° VFS = 180 KTS	α YAW ANGLE LONG. CYC. LAT. CYC. δ_{75} δ_{FLAP} RPM	25-48	180	-5.9	30	1065	32.1	5.9	5.0	30.0	32.2	6.0	5.3	30.0	0	12 ↓
		49-72	180	-5.9	30	1065	32.0	6.2		30.0	32.0	6.0		30.0	0	
		73-96	180	-5.9	30	1063	32.3		4.8	30.0	32.2		5.3	30.0	0	
		97-120	180	-5.9	30	1065		6.3	5.0	30.0		6.2	5.5	30.0	0	
		121-144	180	-5.9	30	1063	31.9	6.3	5.0		32.3	6.4	5.5		-.1	
TRANSITION IN = 15° VFS = 180 KTS	α YAW ANGLE LONG. CYC. LAT. CYC. δ_{75} δ_{FLAP} RPM	145-168	180	-5.9	30		31.9	6.3	5.0	30.0	32.3	6.4	5.6	30.0	-.1	
		1-24	180		15	945	37.5	4.2	3.5	19.5	38.0	4.0	4.1	19.7	0	12 ↓
		25-48	180	-1.99	15	946	37.5	4.3	3.4	19.5	37.6	4.5	3.8	19.7	-.5	
		49-72	180	-1.99	15	945	37.5			19.5	37.7	4.0		19.7	-.5	
		73-96	180	-1.99	15	942	37.7	4.2	3.5	19.5	38.0	4.0	4.0	19.7	-.5	
TRANSITION IN = 15° VFS = 180 KTS	α YAW ANGLE LONG. CYC. LAT. CYC. δ_{75} δ_{FLAP} RPM	97-120	180	-1.99	15	945		4.5	3.5	19.5		4.0	4.0	19.7	-.5	12 ↓
		121-144	180	-1.99	15	945	37.4	4.2	3.3		37.6	4.3	4.0		-.5	
		145-168	180	-1.99	15		37.5	4.2	3.3	20.7	37.6	4.1	4.0	20.0	-.5	
		1-24	180		15	945	37.5									
		25-48	180	-1.99	15	946	37.5									

TABLE 4. TEST VARIABLES HELD CONSTANT

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OF POOR QUALITY

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I_N	26°
RPM	1063
$\theta_{.75}$ left	
A_1 left	2.8°
B_1 left	3.4
δ_F left	30°
$\theta_{.75}$ right	18.2
A_1 right	3.7°
B_1 right	3.8°
δ_F right	30°
Yaw angle 8	0°

3.0 DATA DESCRIPTION

The test data provided in this test volume were obtained on test runs 89 through 102 and 111 through 125. A log of the test program can be found in Volume I, Reference . The purpose of this section is to make the user aware of test conditions or problem areas which impact the interpretation of the information obtained. A complete log of instrumentation changes is provided in Volume I, Reference .

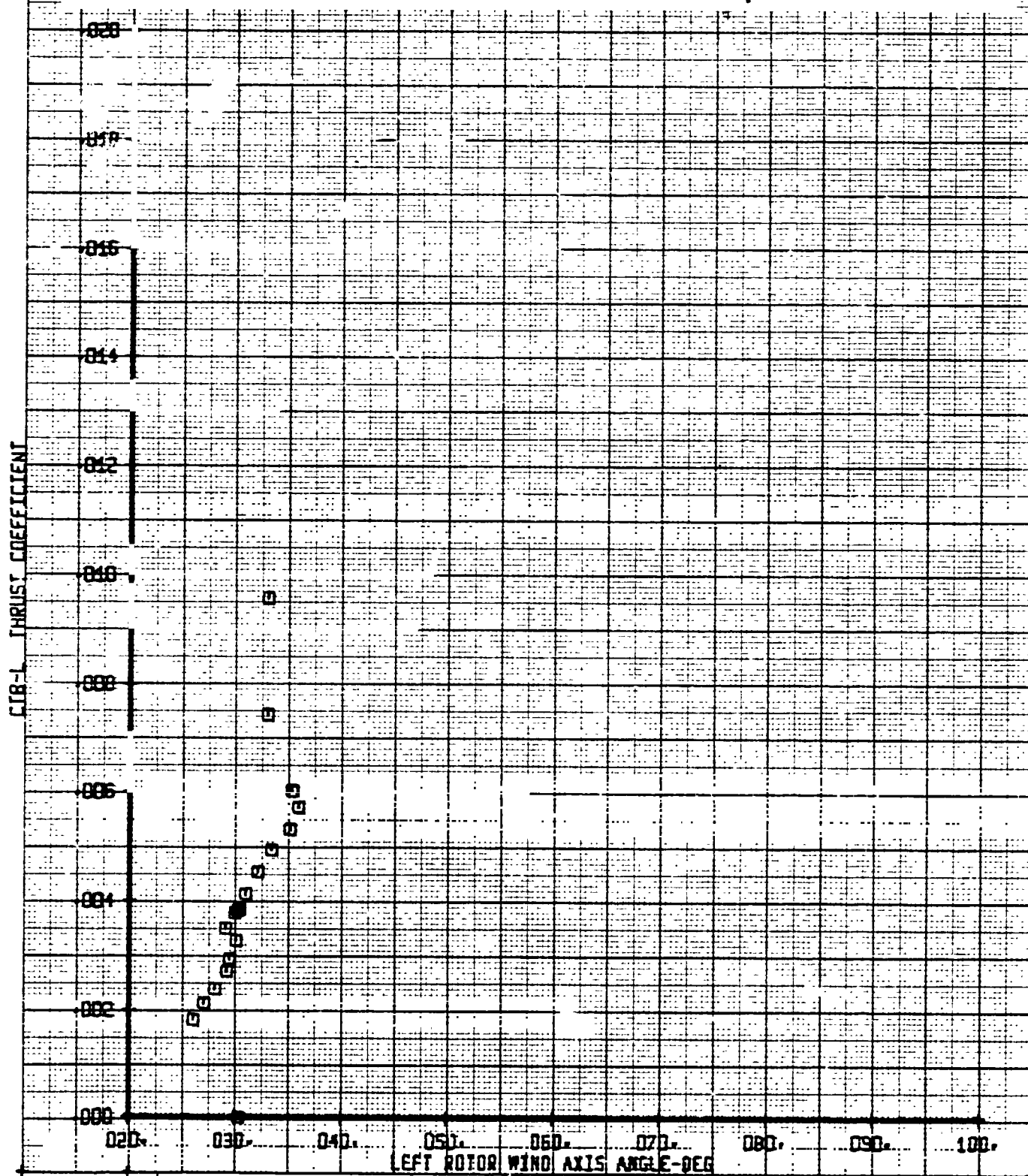
In the four data sets provided in this volume, the only important problem to bear in mind is that the right hand rotor side force channel was discovered to be saturating on run 82 and set to zero until run 96. For this reason the right hand rotor side force and yawing moment data in data set 9 have been deleted. The calibration procedure for the nacelle balances was such that the calibration center was taken as the hub center line. This means that the interaction of side force on yaw moment is quite large and both channels are seriously affected. The other right rotor data channels are included since the interactions are not large; however, interpretation of the right rotor balance data must proceed with caution.

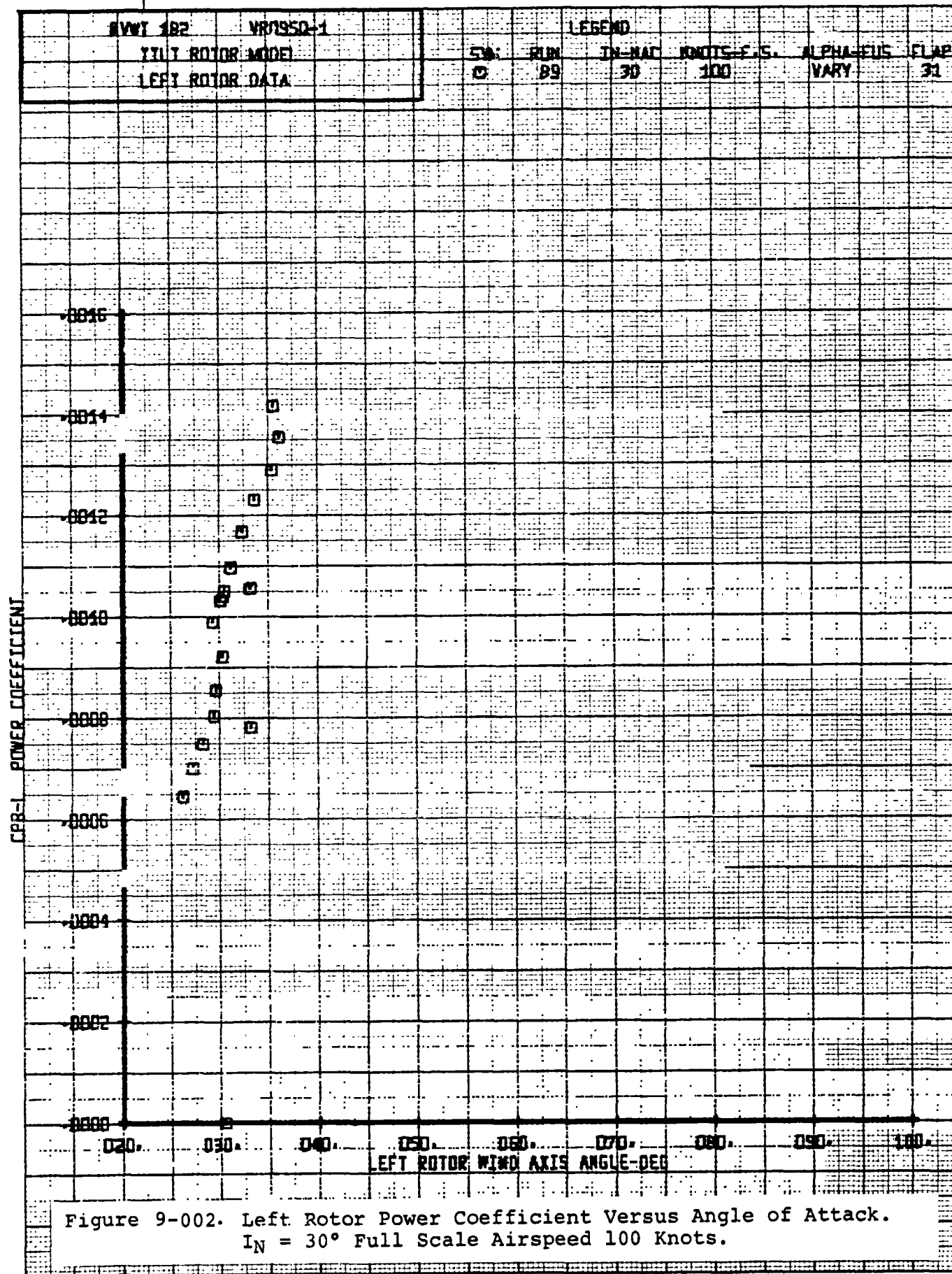
On run 96 and all subsequent runs the left hand rotor side force signal was fed into the right hand side force channel with an inverted sign to preserve sign conventions. For Data Sets 10, 11, and 12, the right rotor side force data reflects the left rotor side force raw signal processed with the right rotor data.

This procedure should yield reasonable right hand rotor results for symmetric test conditions; however, the left rotor data should be considered to be the more precise of the two measurements.

BVWT 182	VR0950-1	LEGEND				
TDI ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	89	30	100	VARY
						FLAP 31

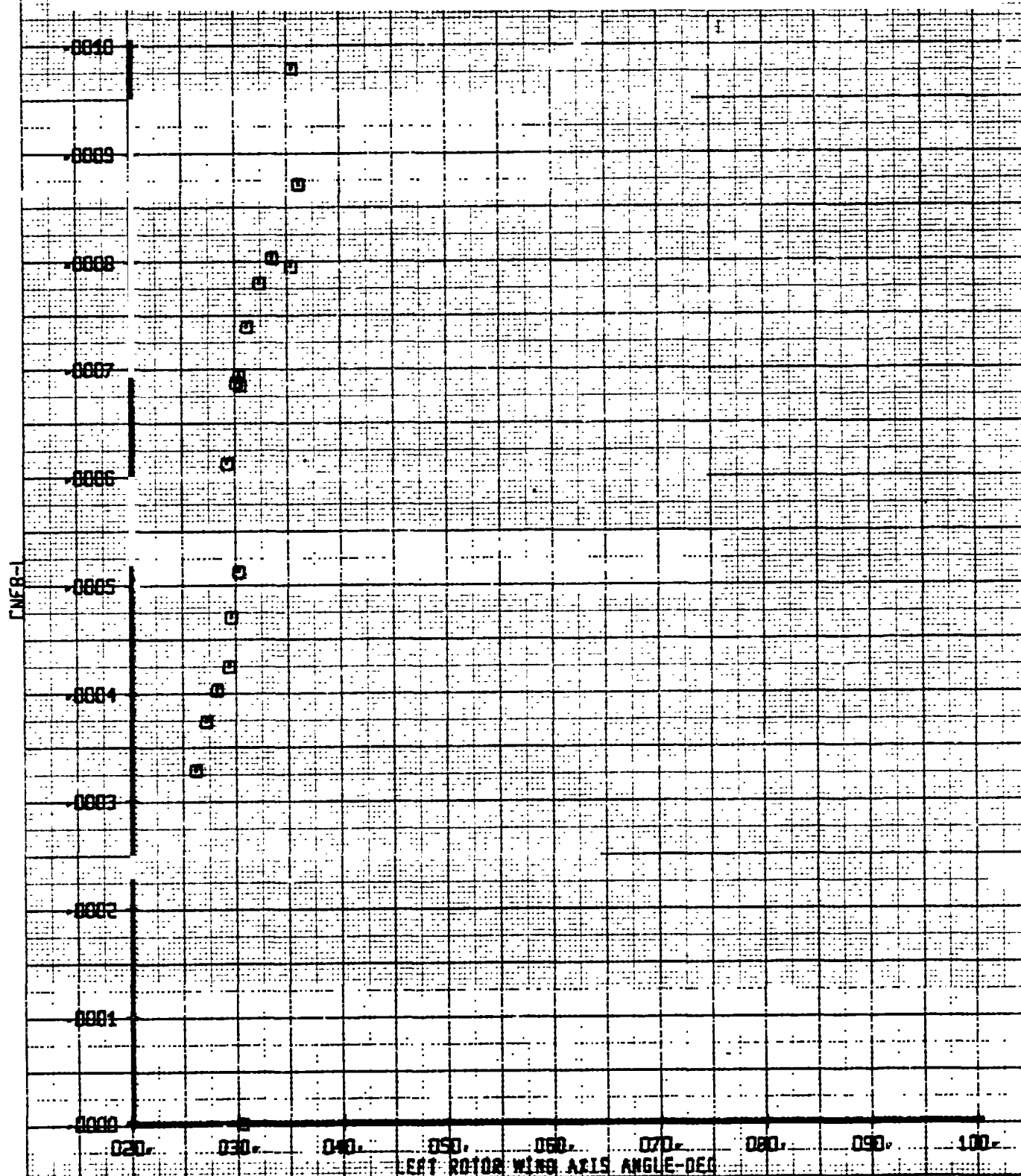
Figure 9-001. Left Rotor Thrust Coefficient Versus Angle of Attack.
IN = 30° Full Scale Airspeed 100 Knots.

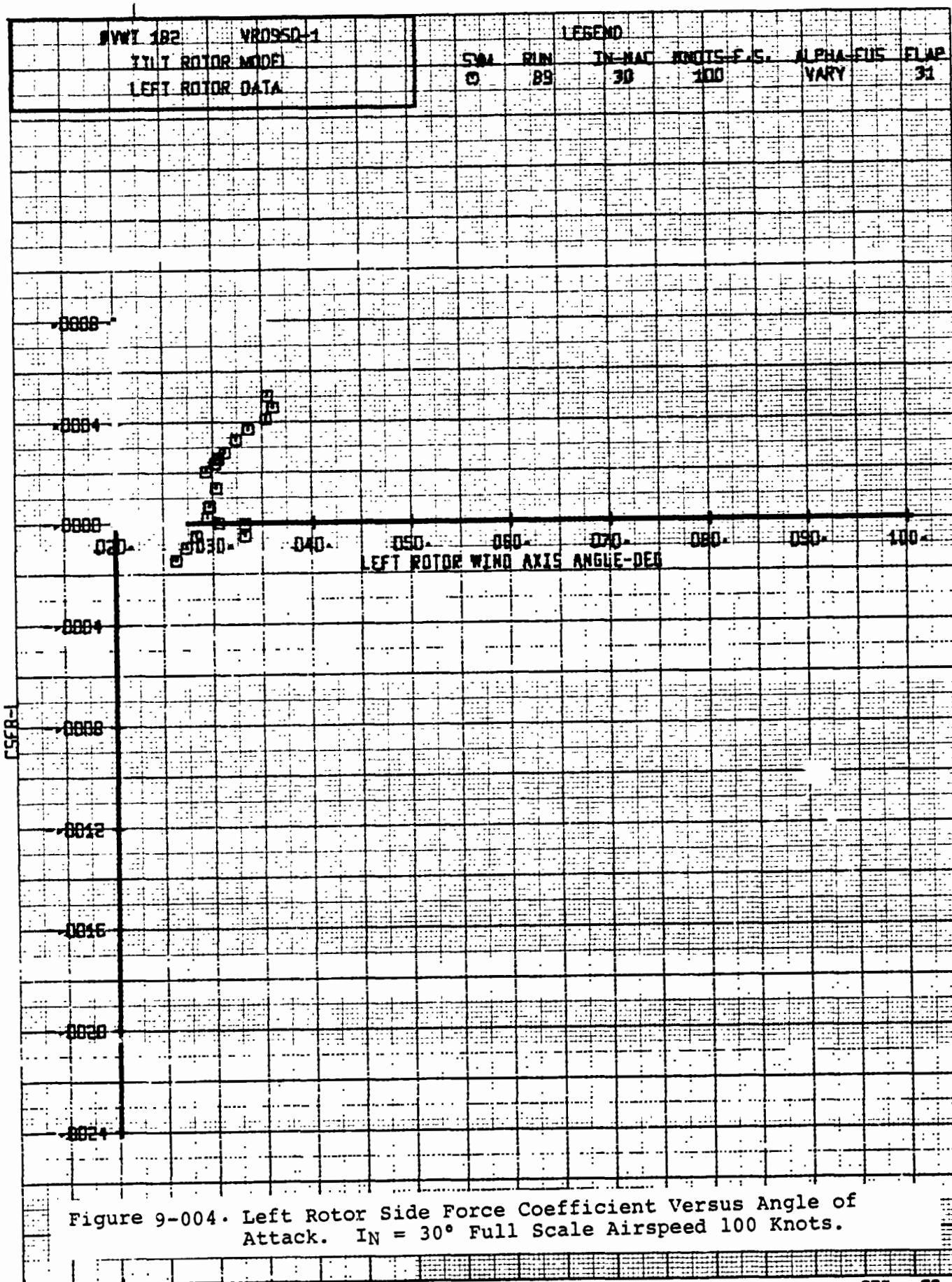


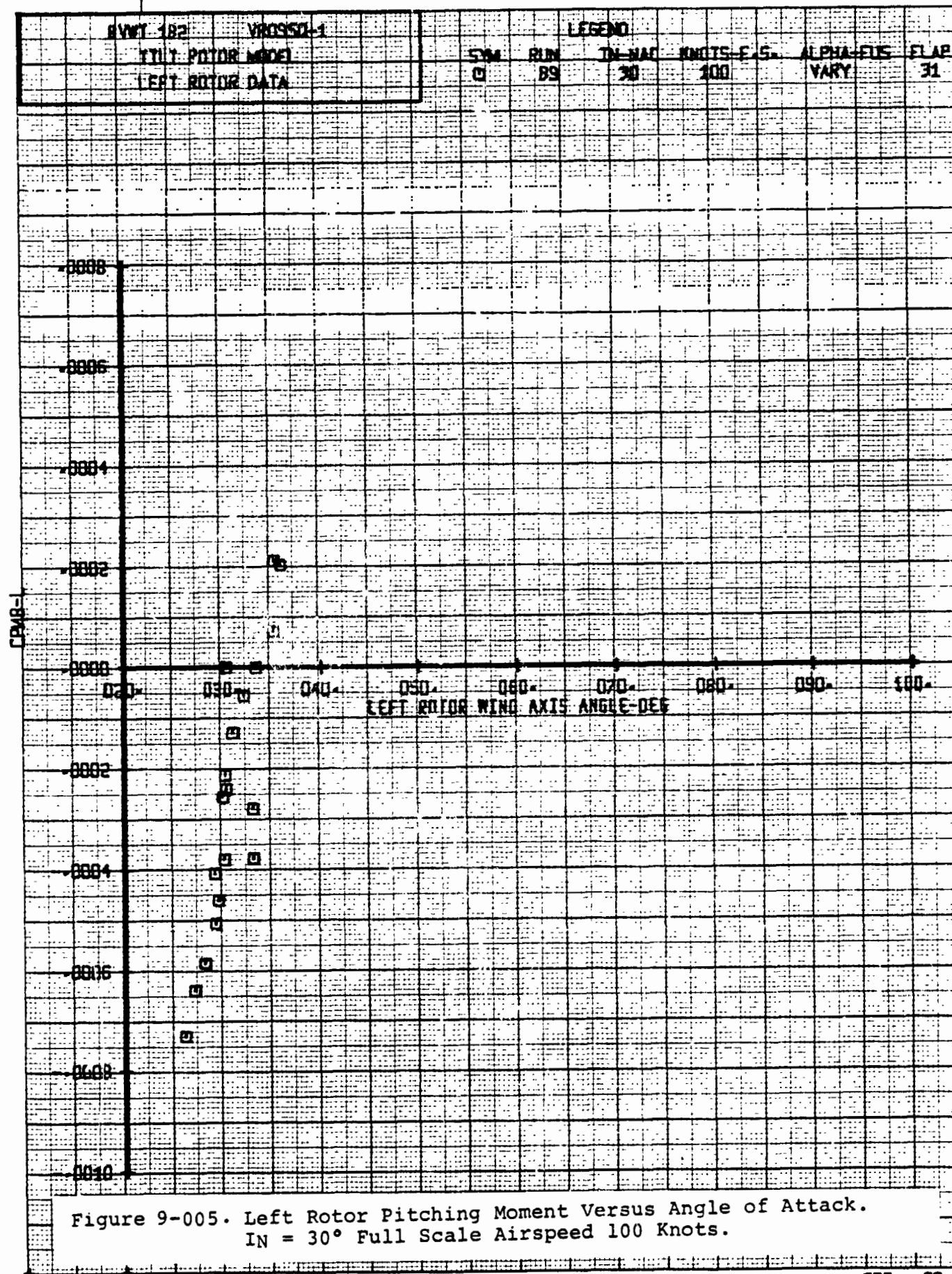


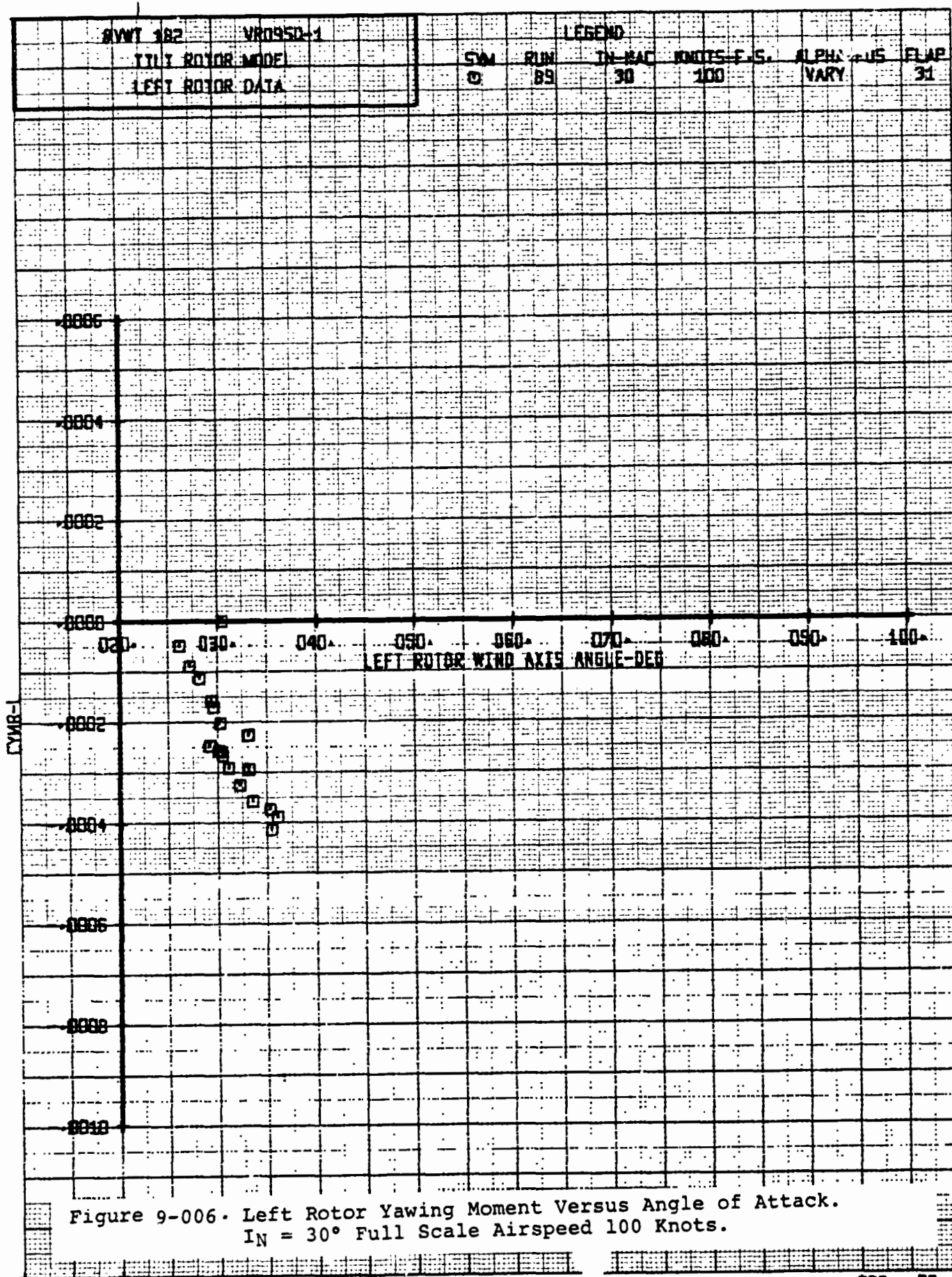
BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	89	30	100	VARY
						FLAP 31

Figure 9-003. Left Rotor Normal Force Coefficient Versus Angle of Attack. $IN = 30^\circ$ Full Scale Airspeed 100 Knots.



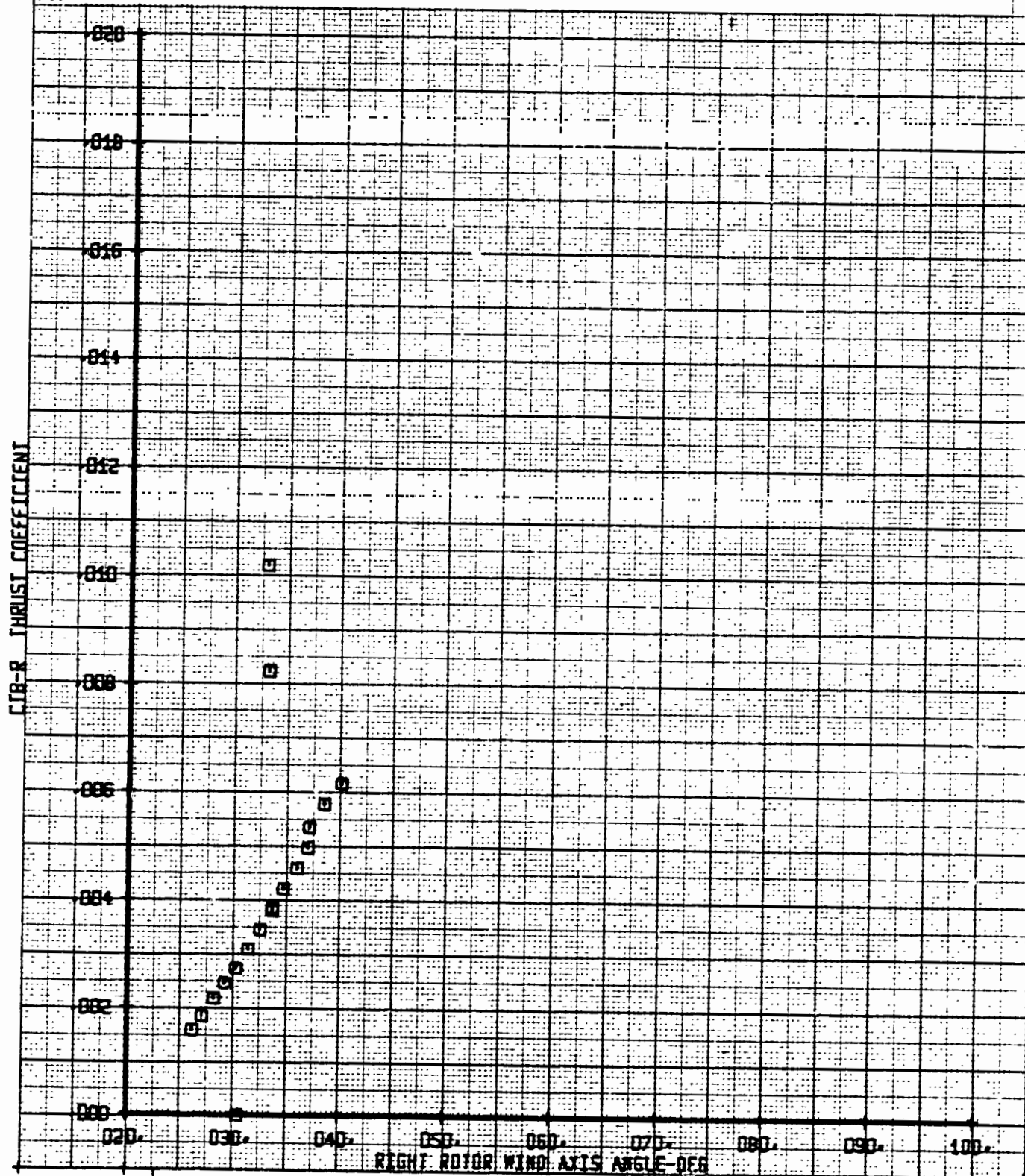






BVWT 182	VR0980-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FLAP
RIGHT RL R DATA		□	89	30	100	VARY 31

Figure 9-007. Right Rotor Thrust Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



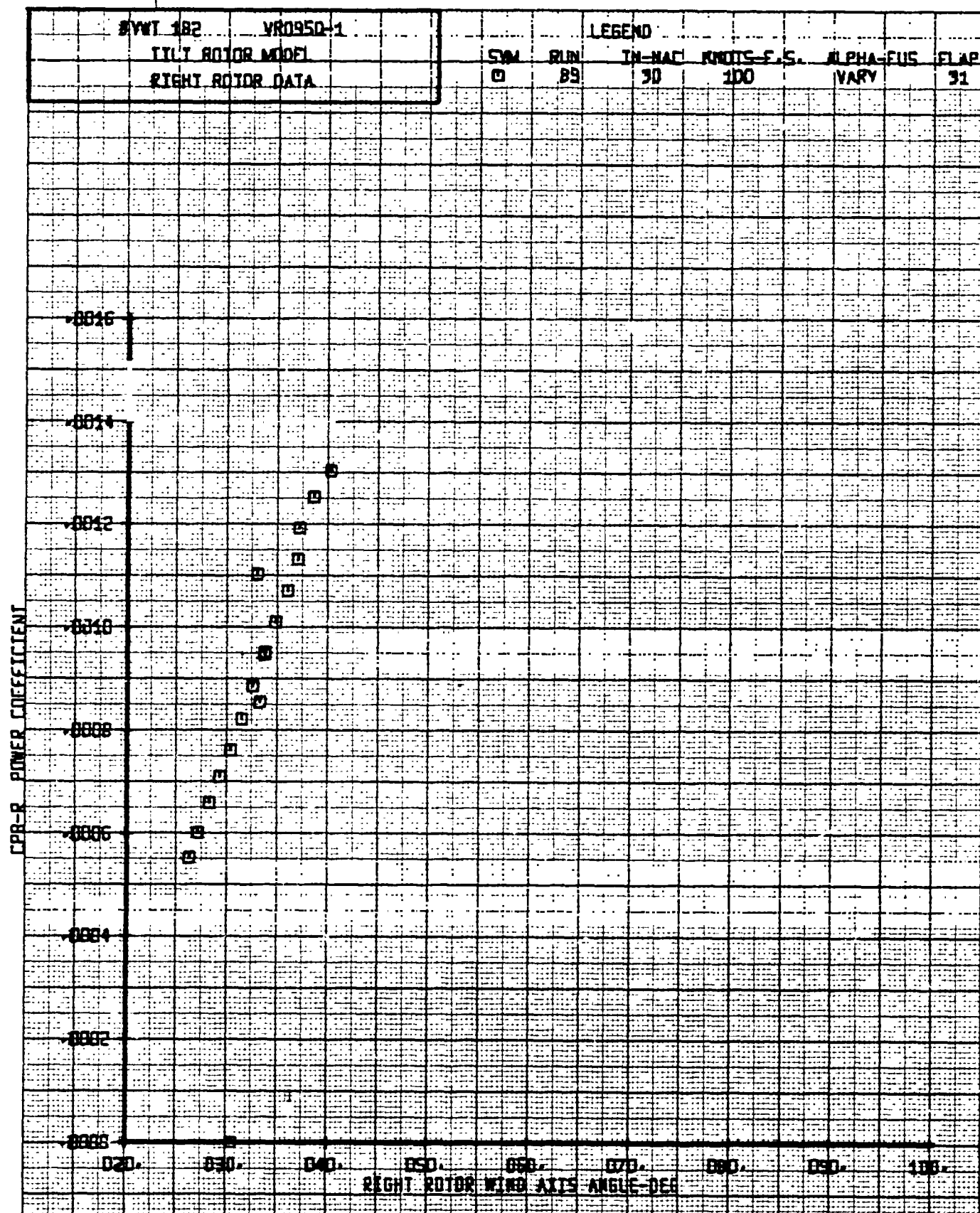


Figure 9-008. Right Rotor Power Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

BVWT 182 VR0950-1

RIGHT ROTOR WING

RIGHT ROTOR DATA

LEGEND

SYM

RUM

IN-HAF

KNOTS-F.S.

ALPHA-FUS

FLAP

0

89

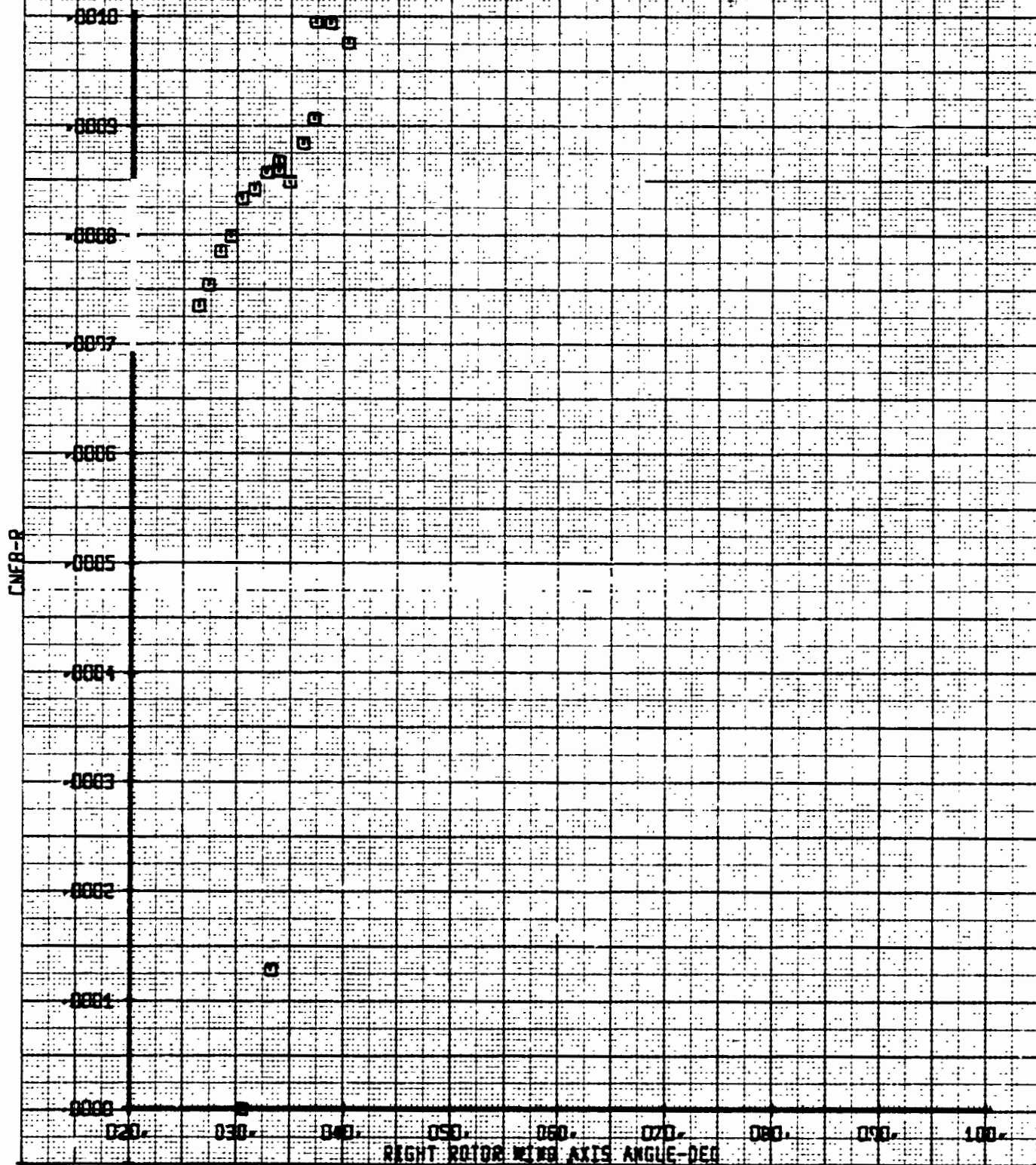
30

100

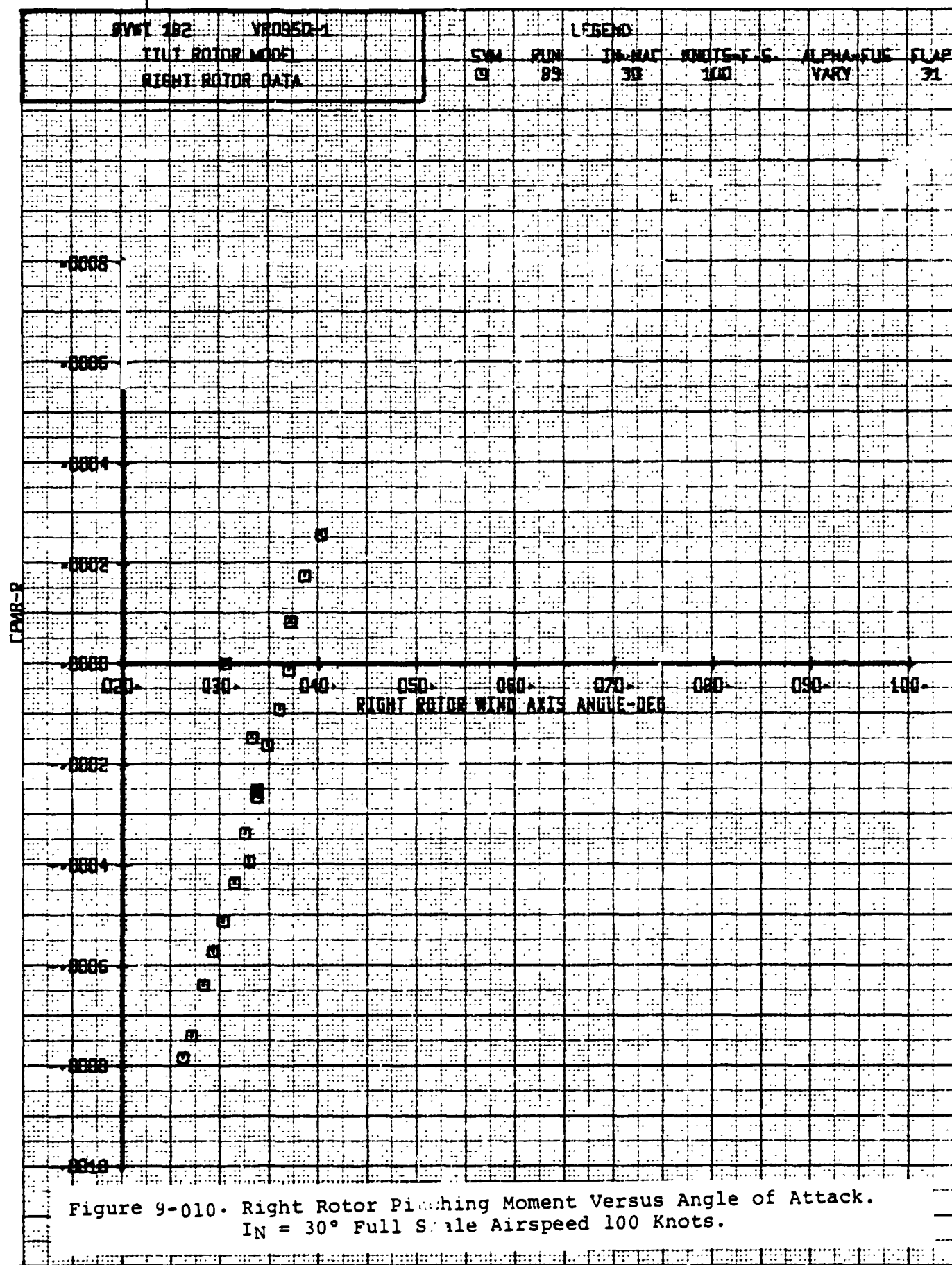
VARY

31

Figure 9-009. Right Rotor Normal Force Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

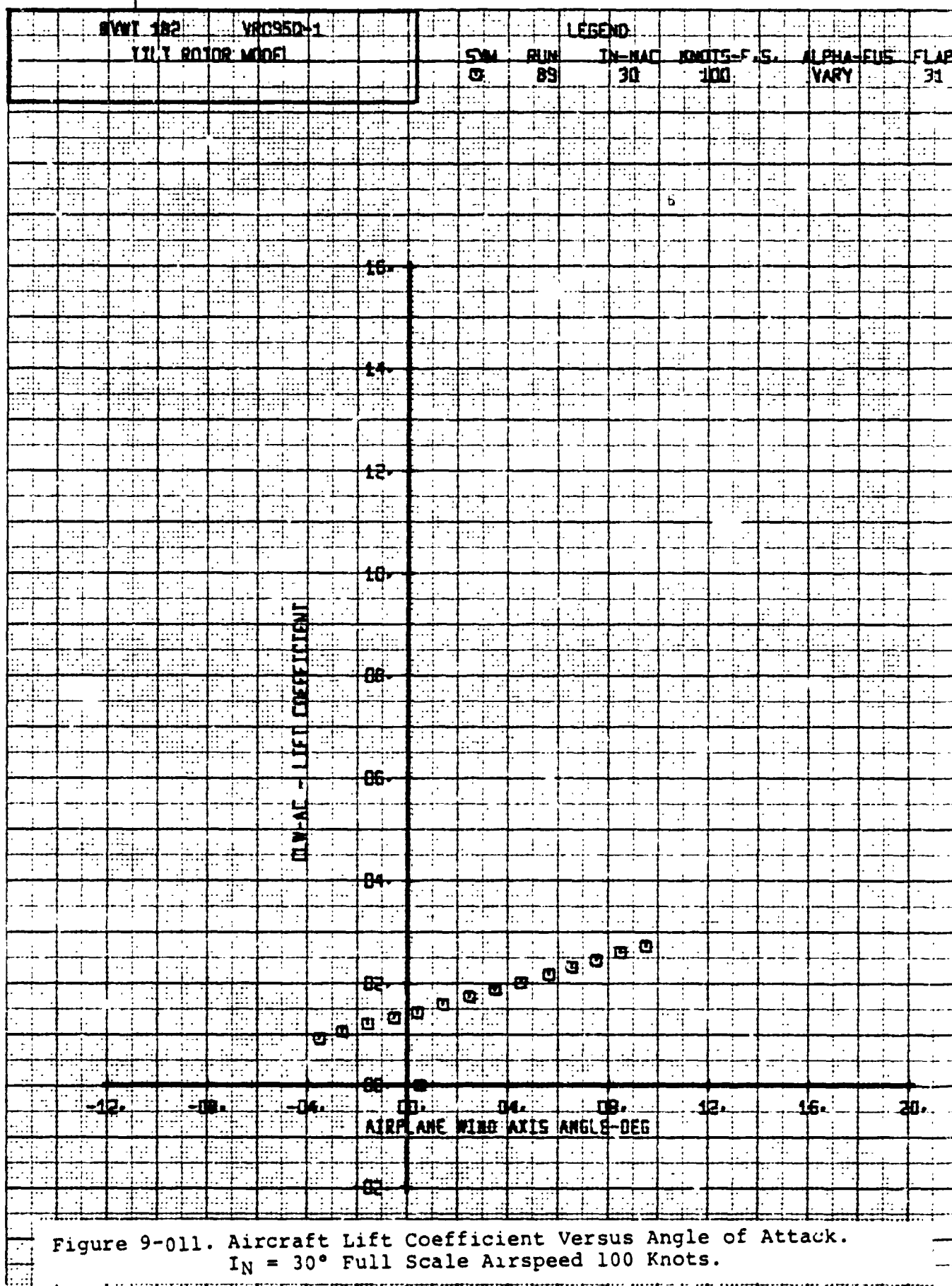


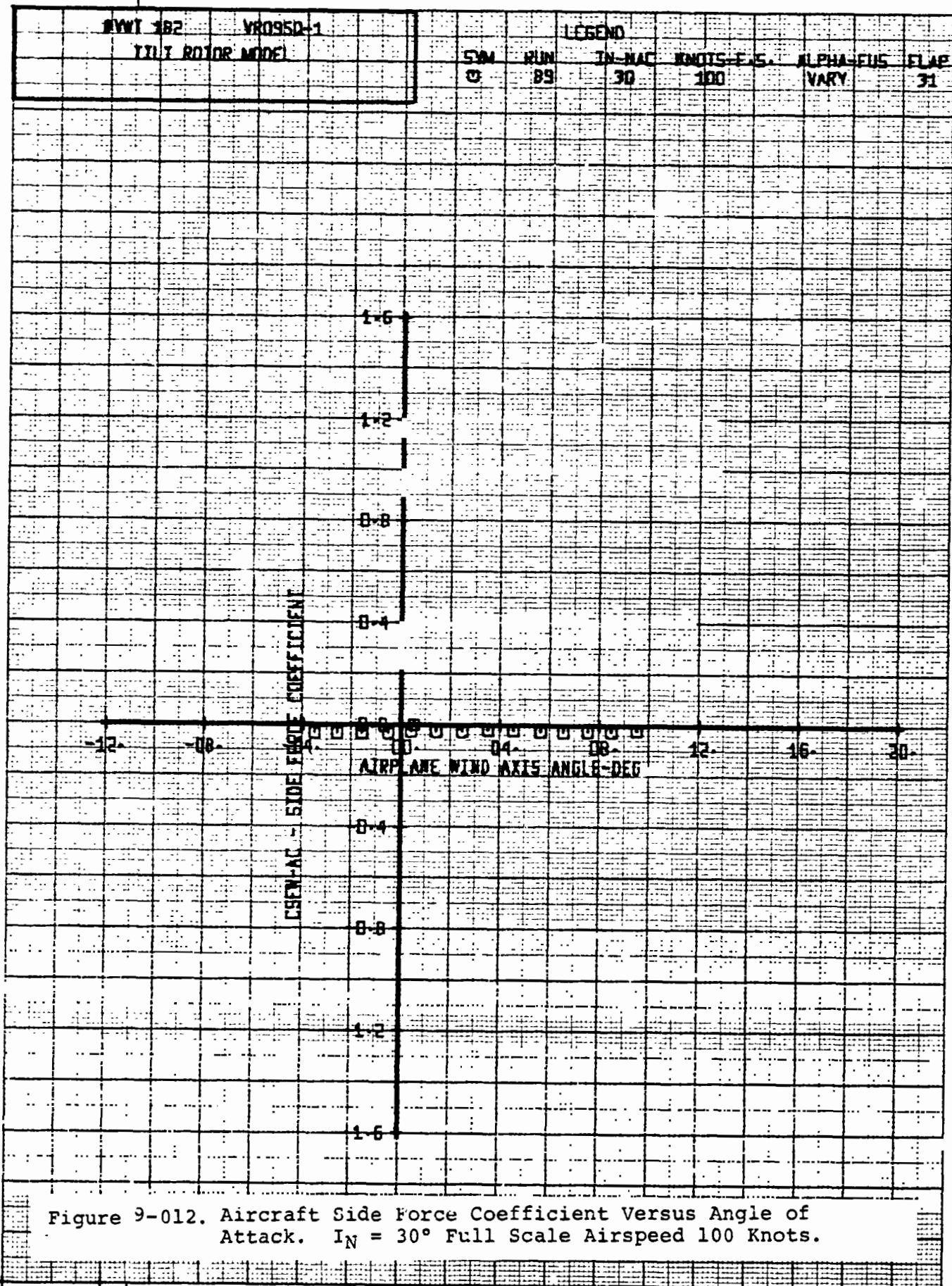
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Refer to Section 3.0

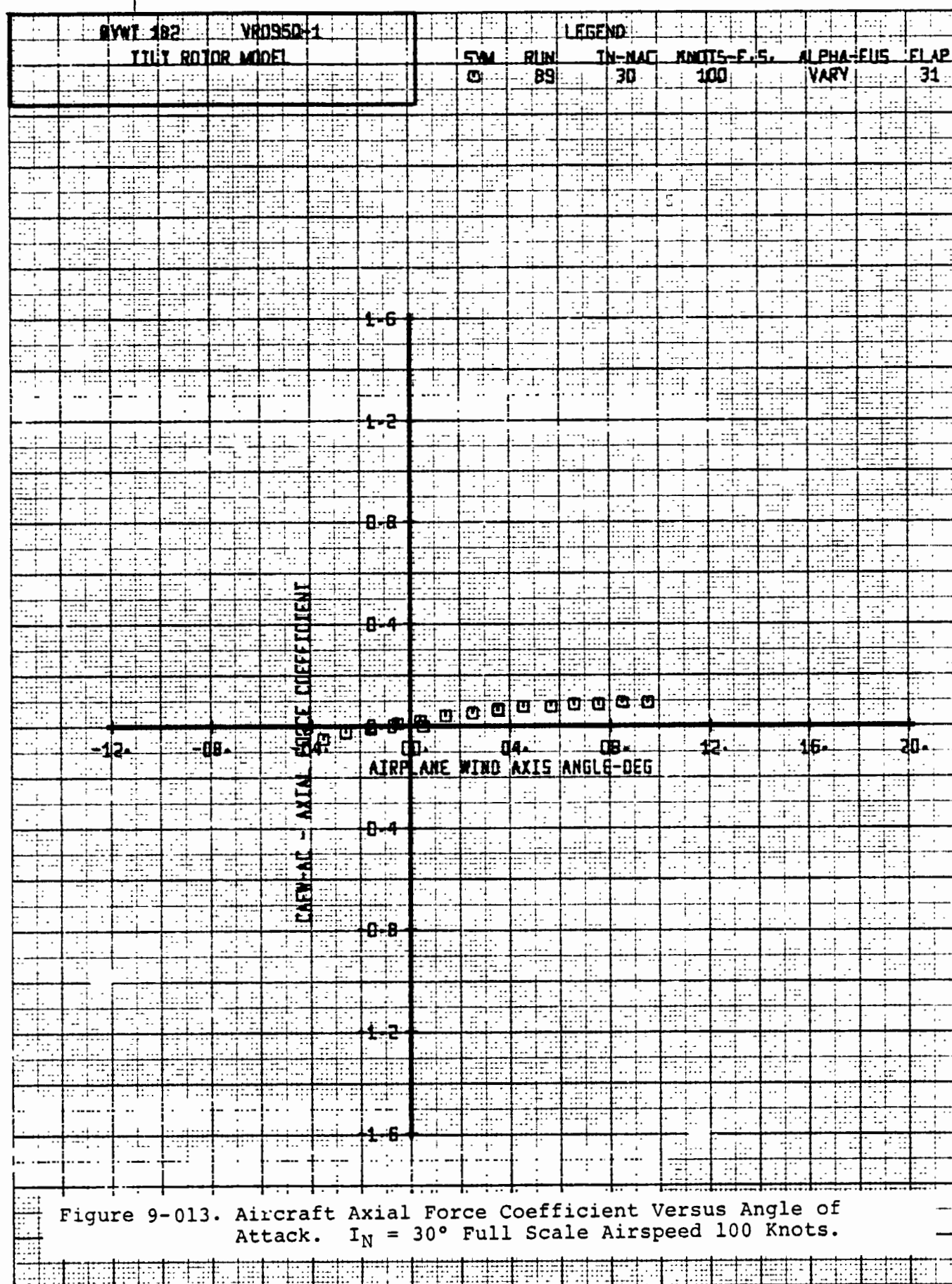


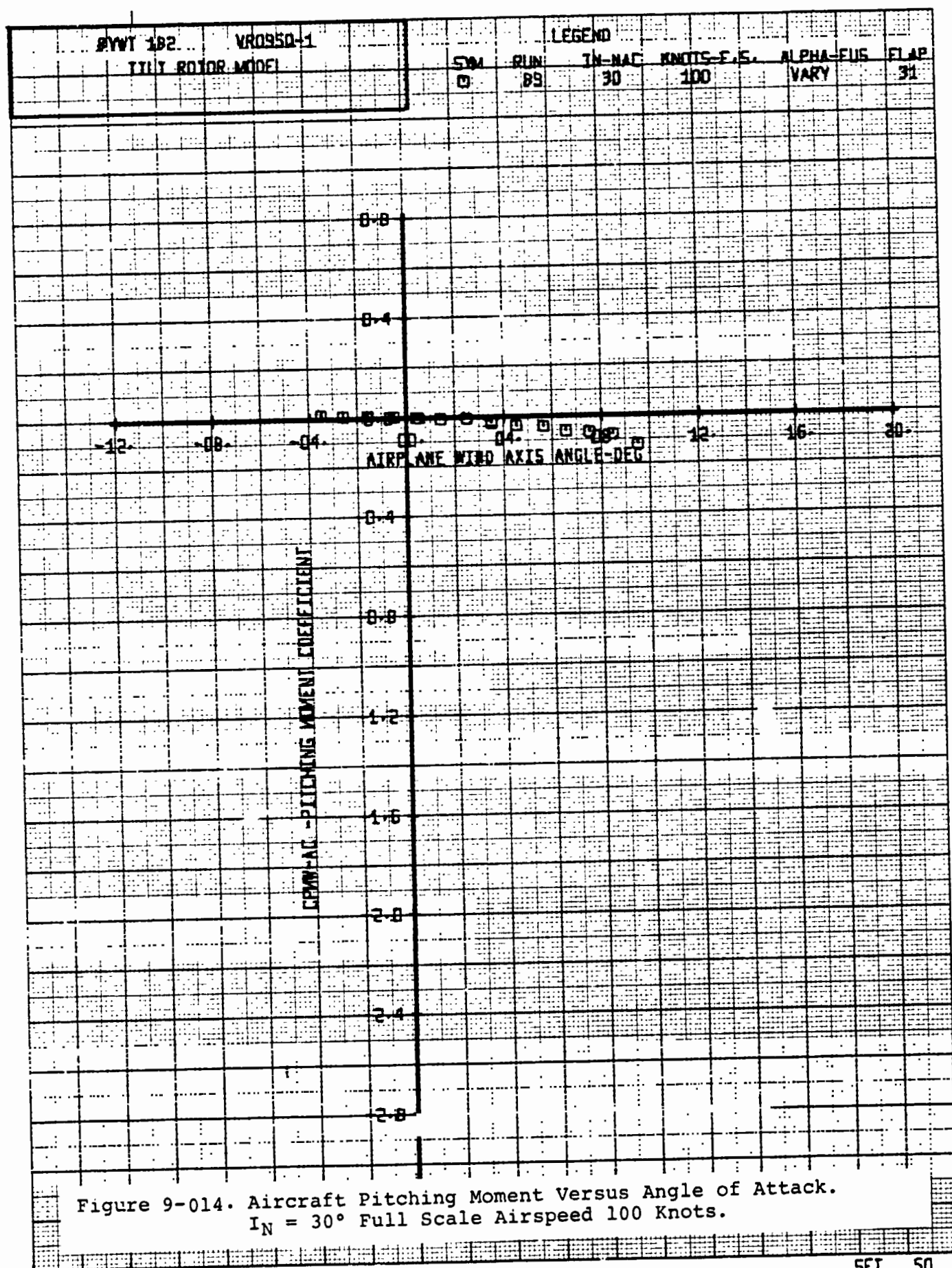
D238-10000-3

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Refer to Section 3.0









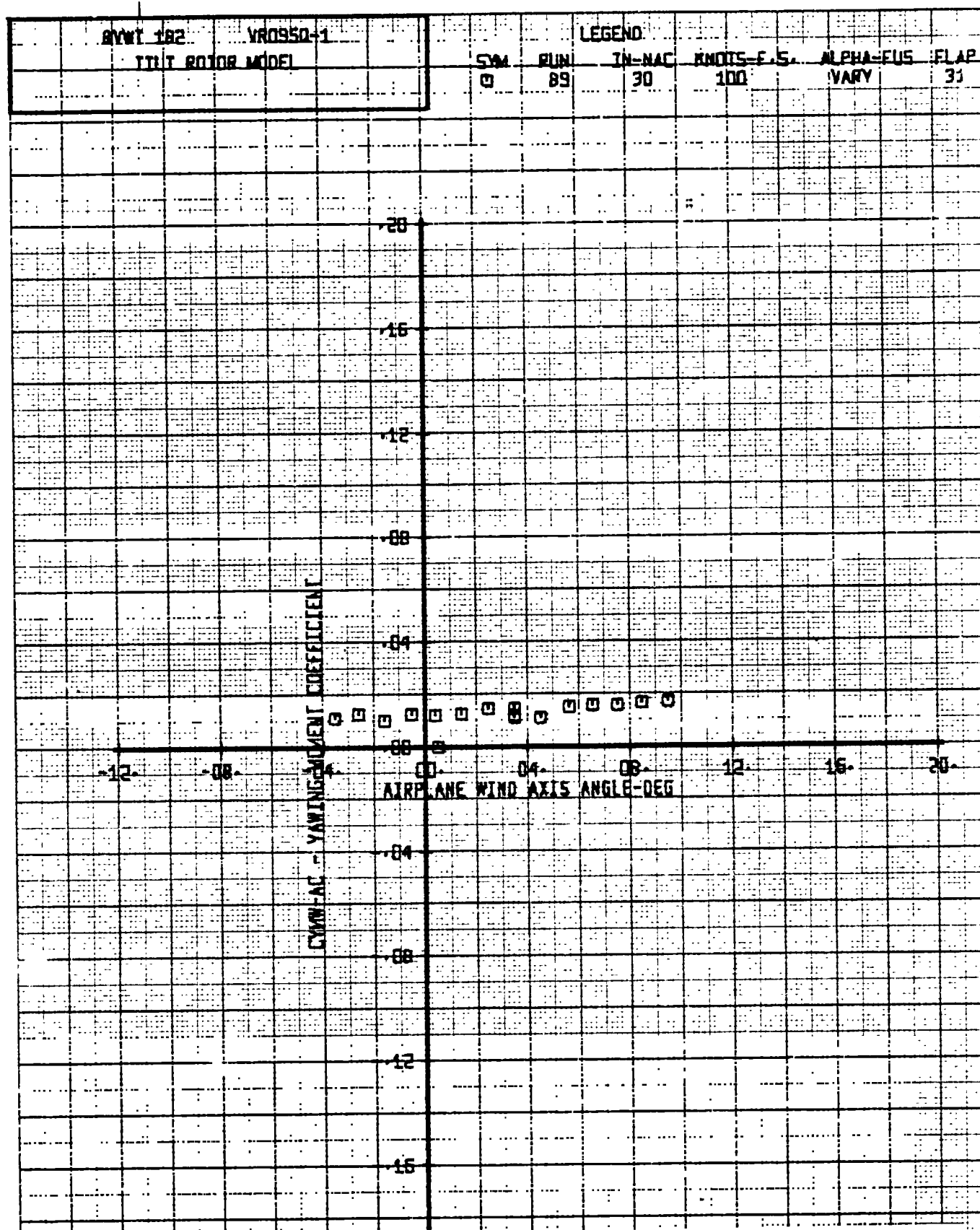
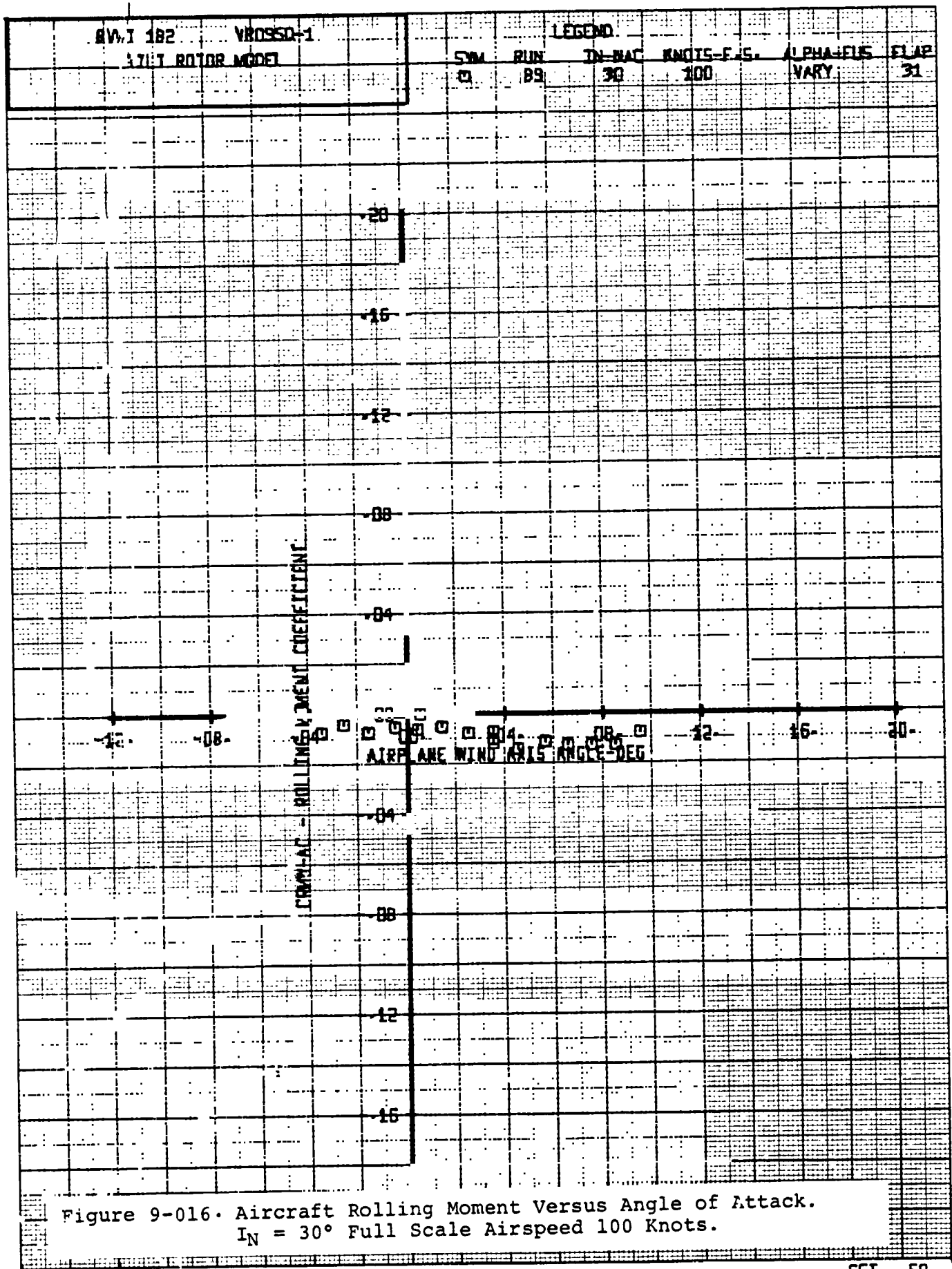


Figure 9-015. Aircraft Yawing Moment Versus Angle of Attack.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



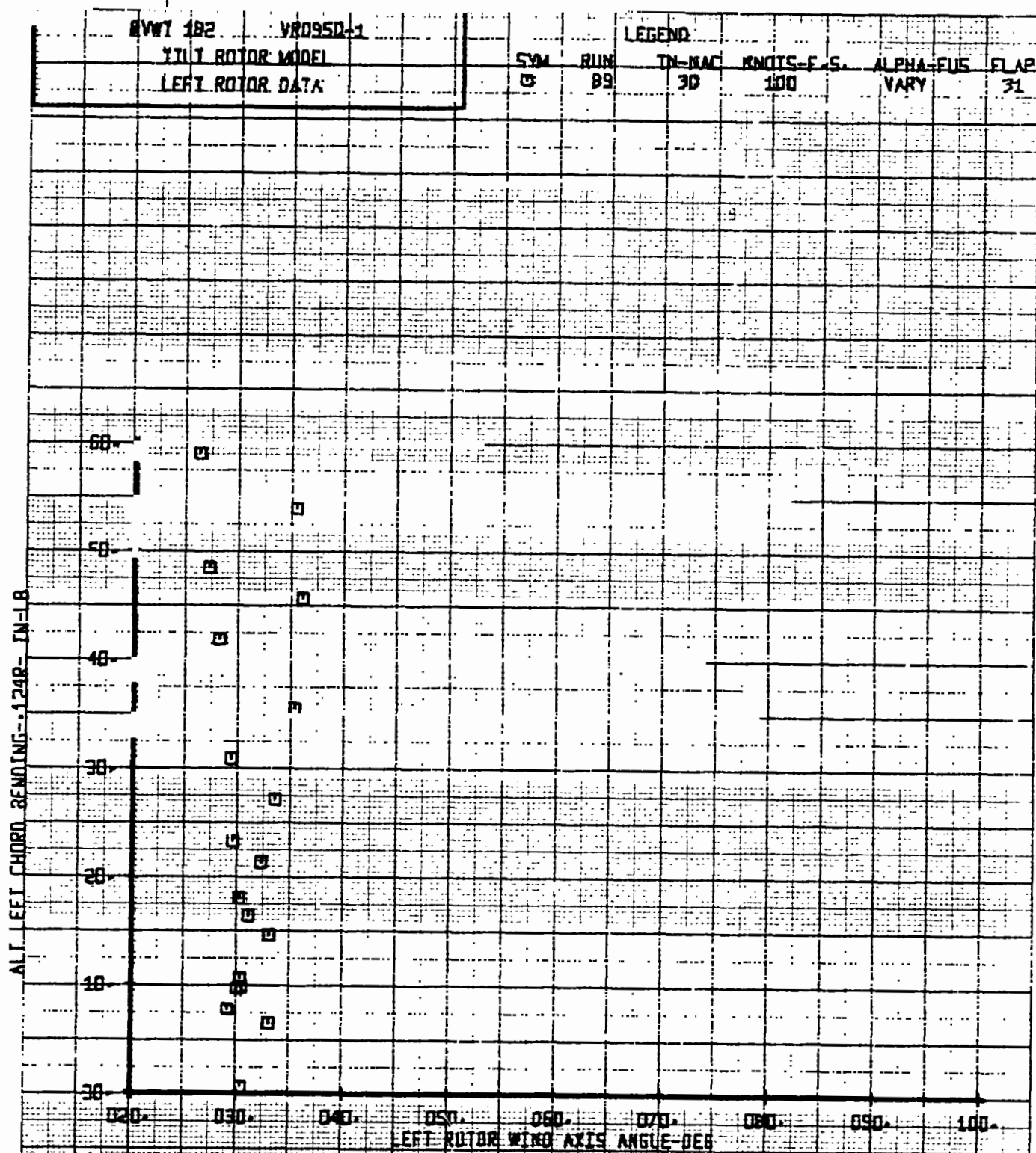
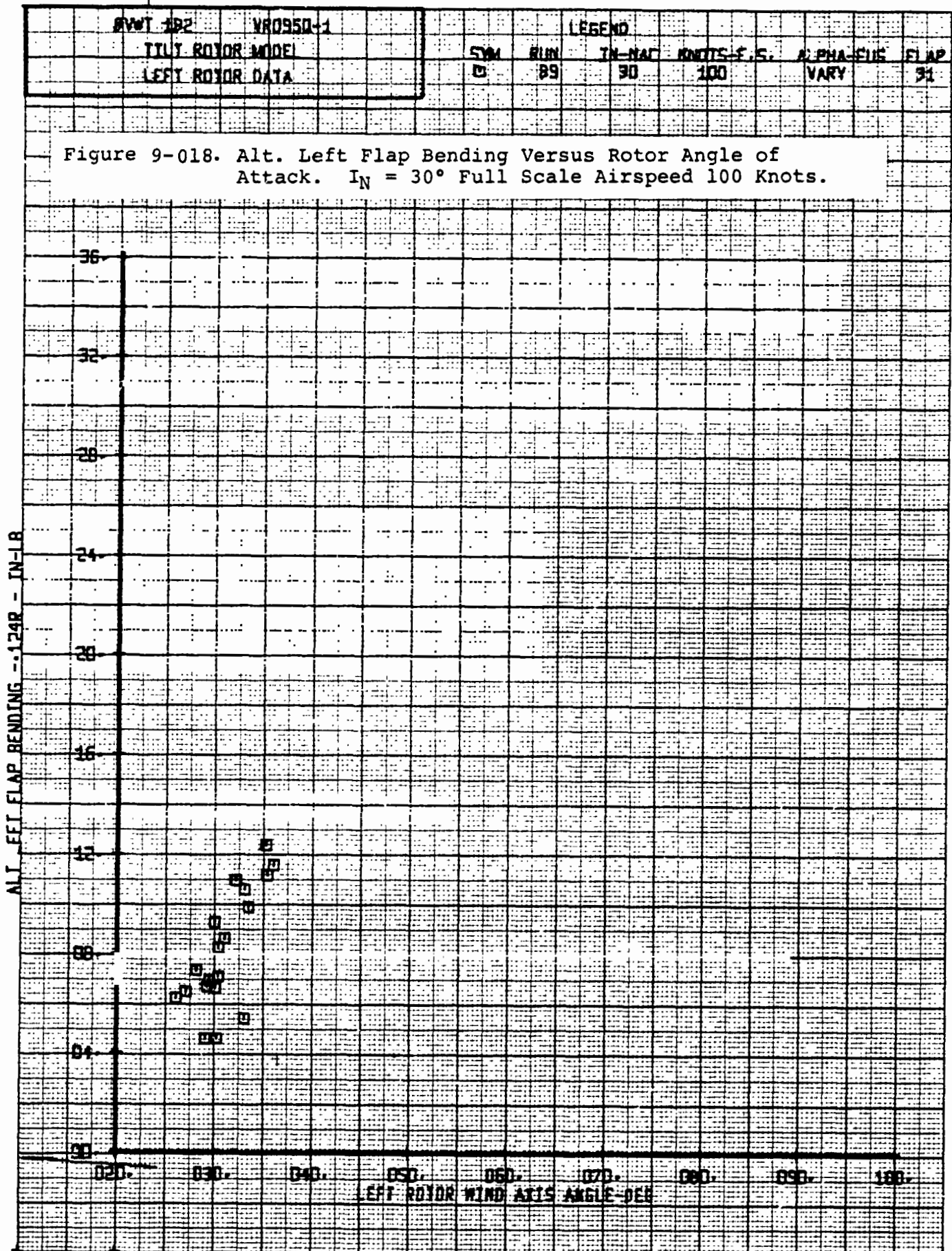
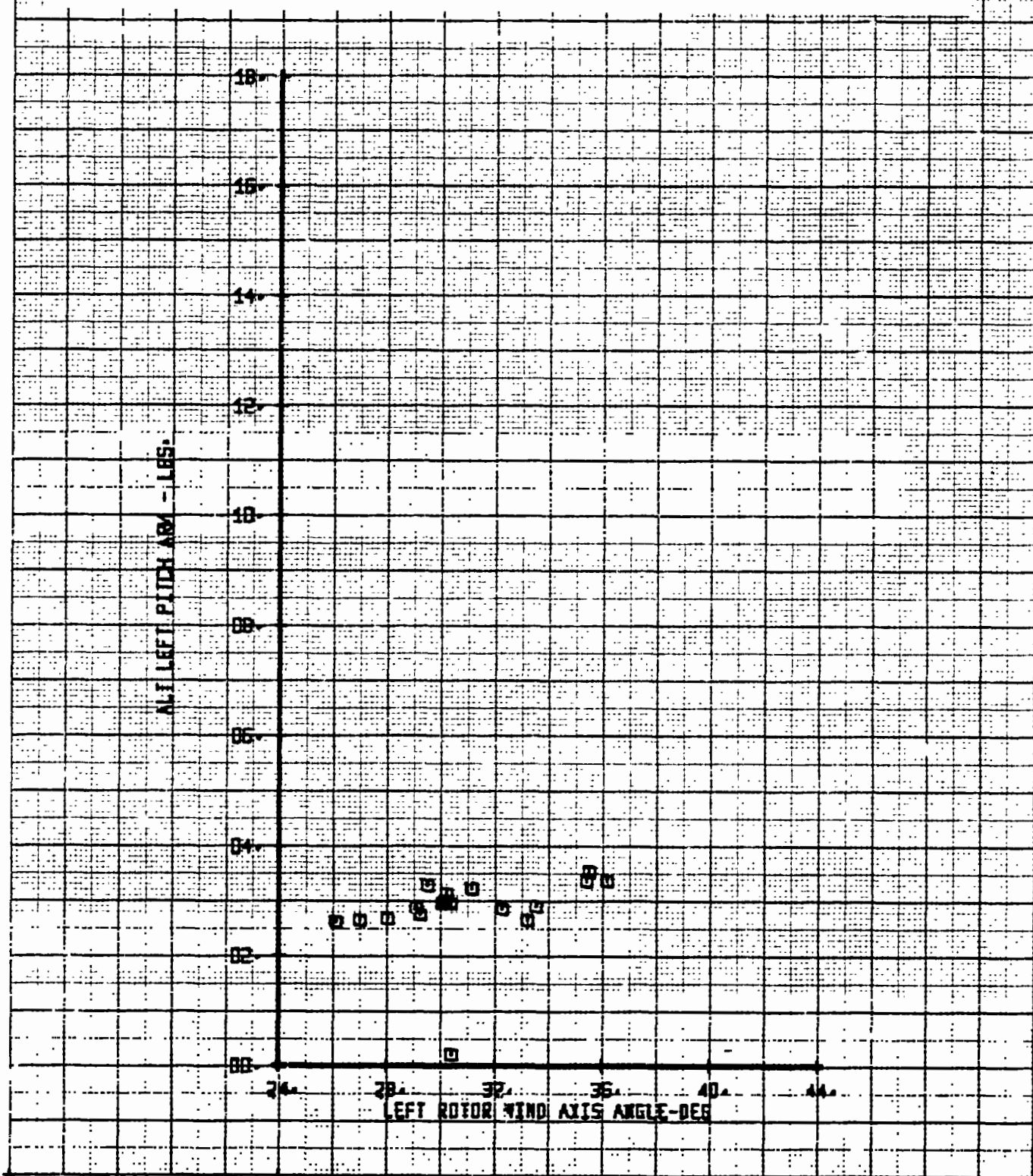


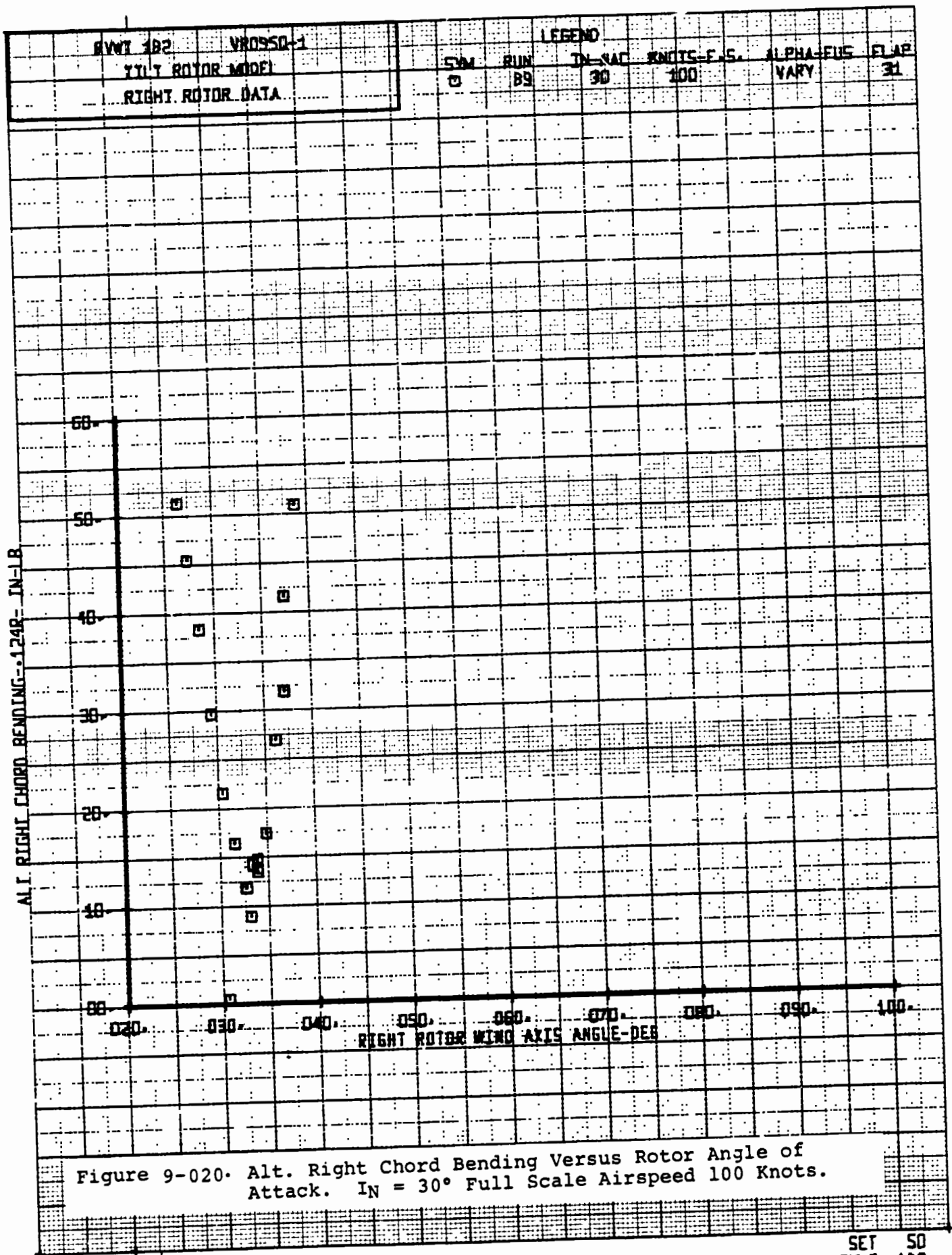
Figure 9-017. Alt. Left Chord Bending Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

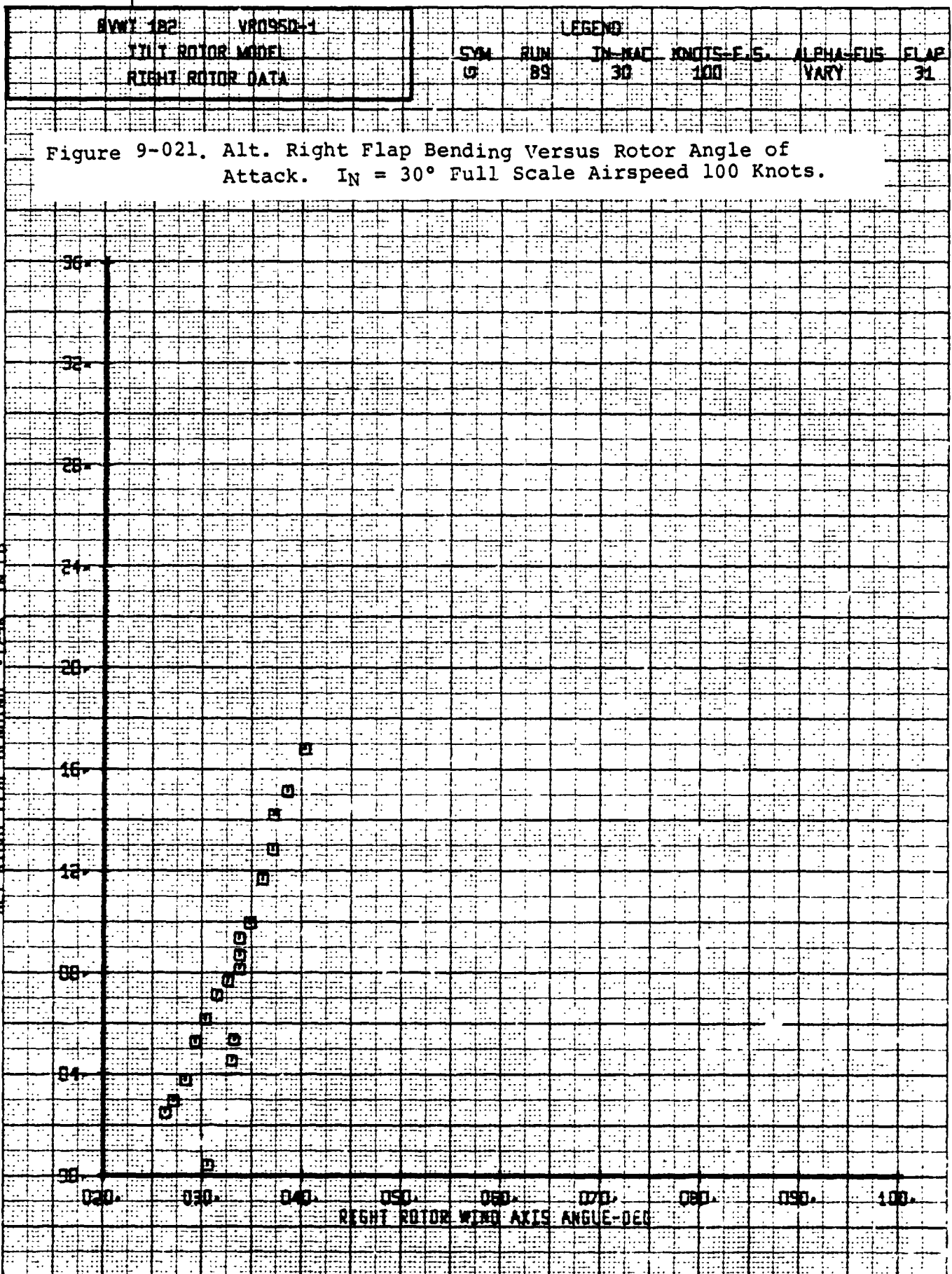


BVWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-E.S.	ALPHA-FUS
LEFT ROTOR DATA		0	B9	30	100	YARY
						FLAP 31

Figure 9-019. Alt. Left Pitch Link Load Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

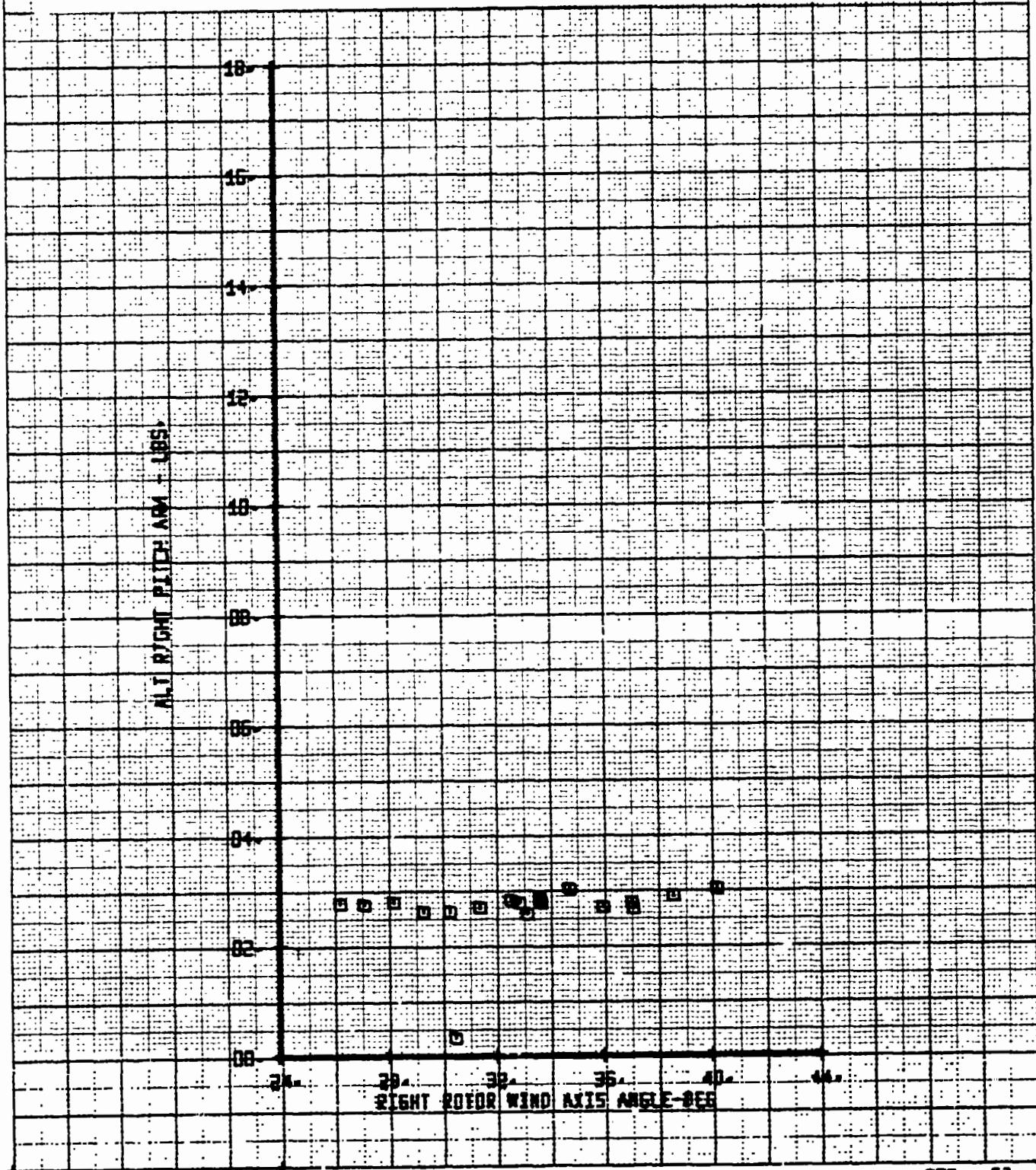


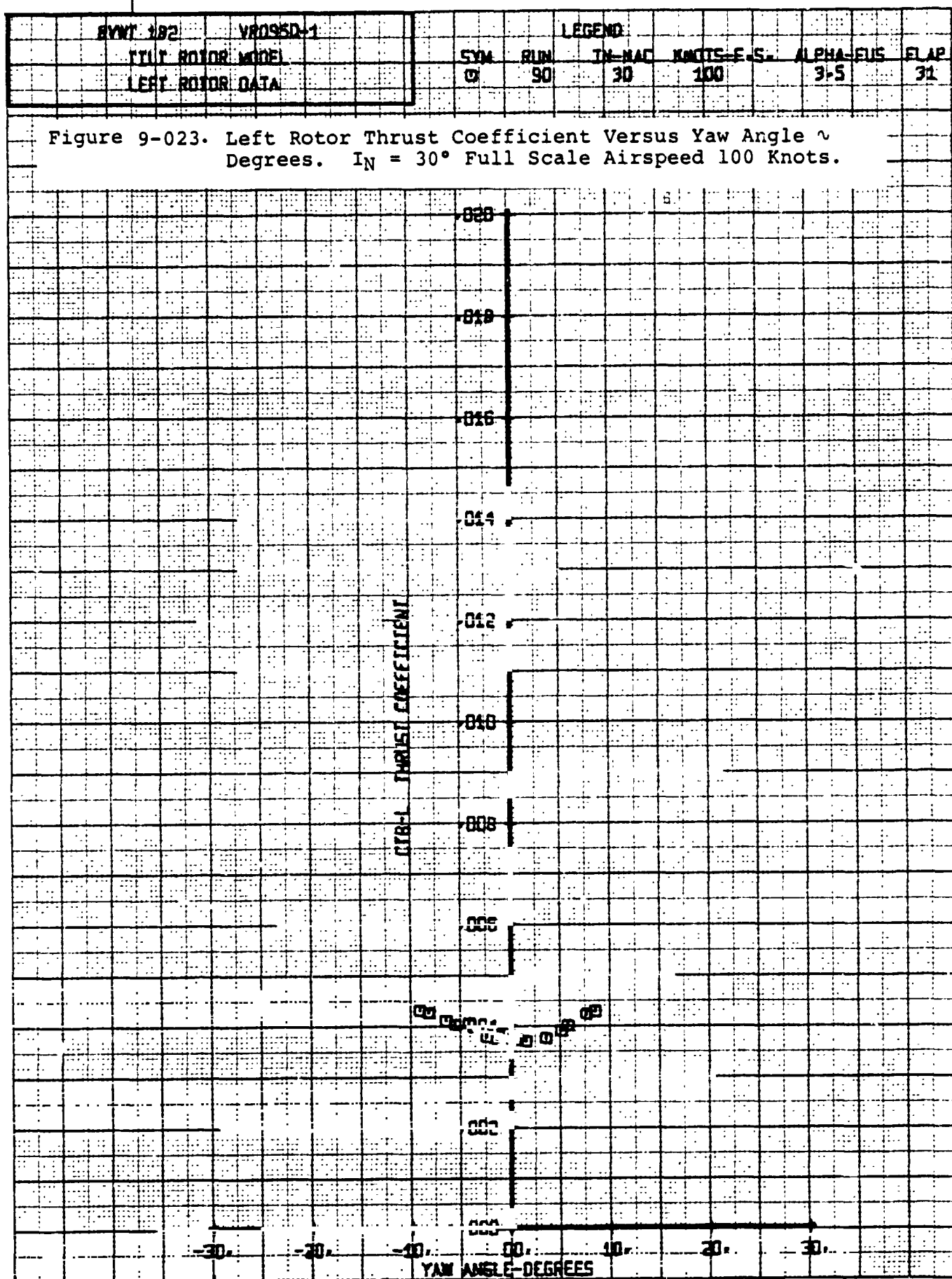


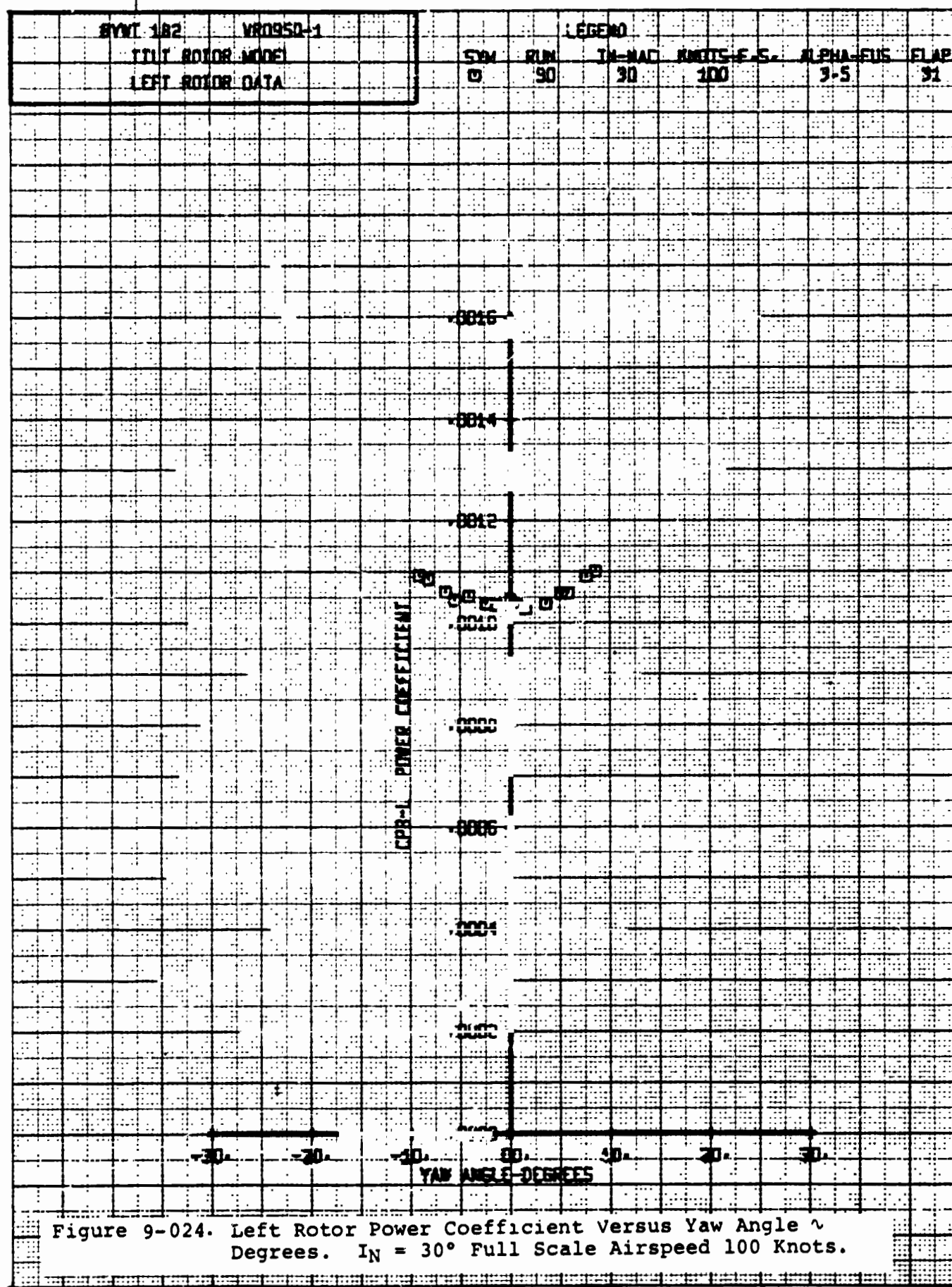


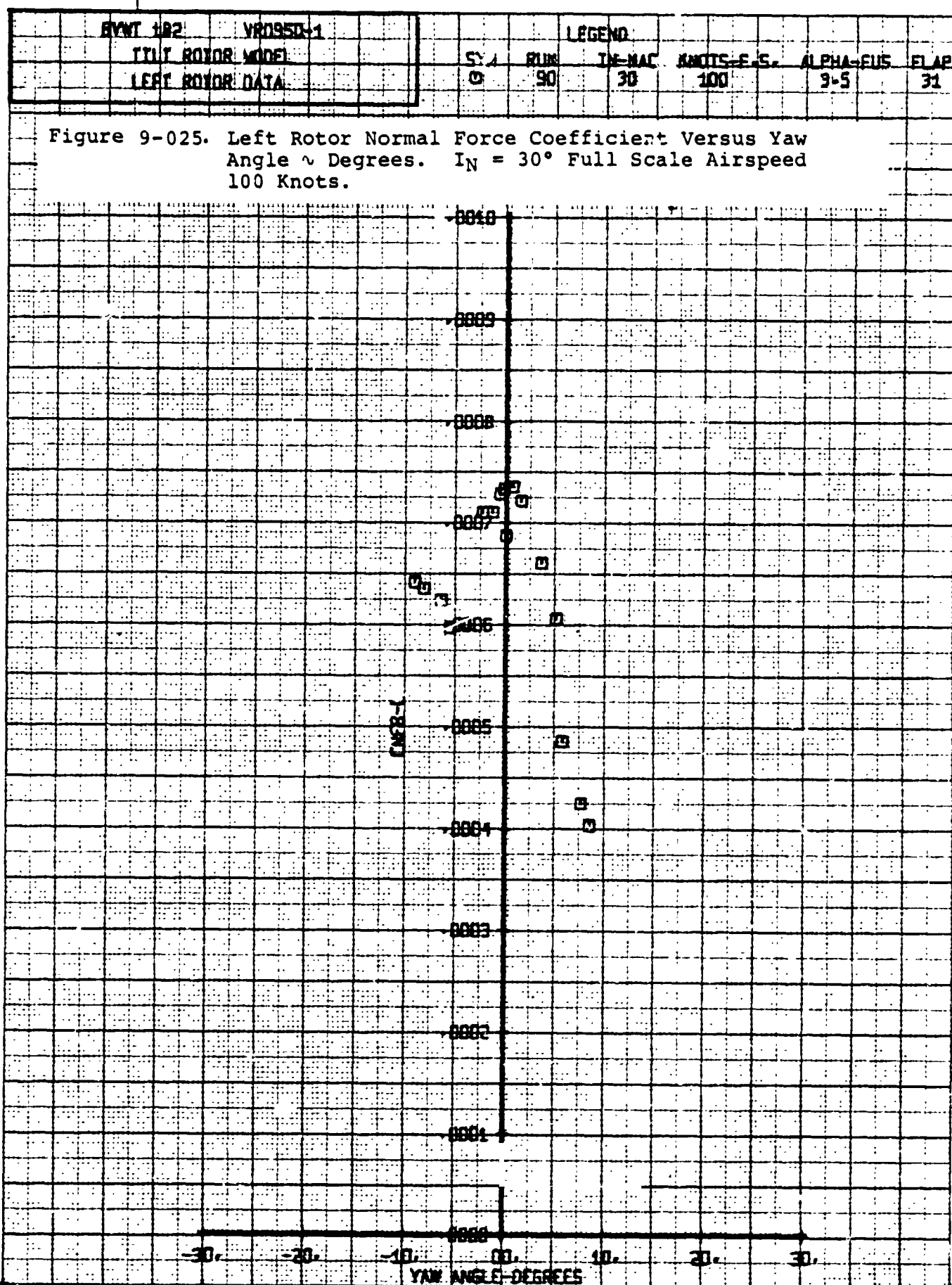
BVWT 182	VR0950-1	LEGEND					
TAIL ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR DATA		0	09	30	100	VARY	31

Figure 9-022. Alt. Right Pitch Link Load Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.









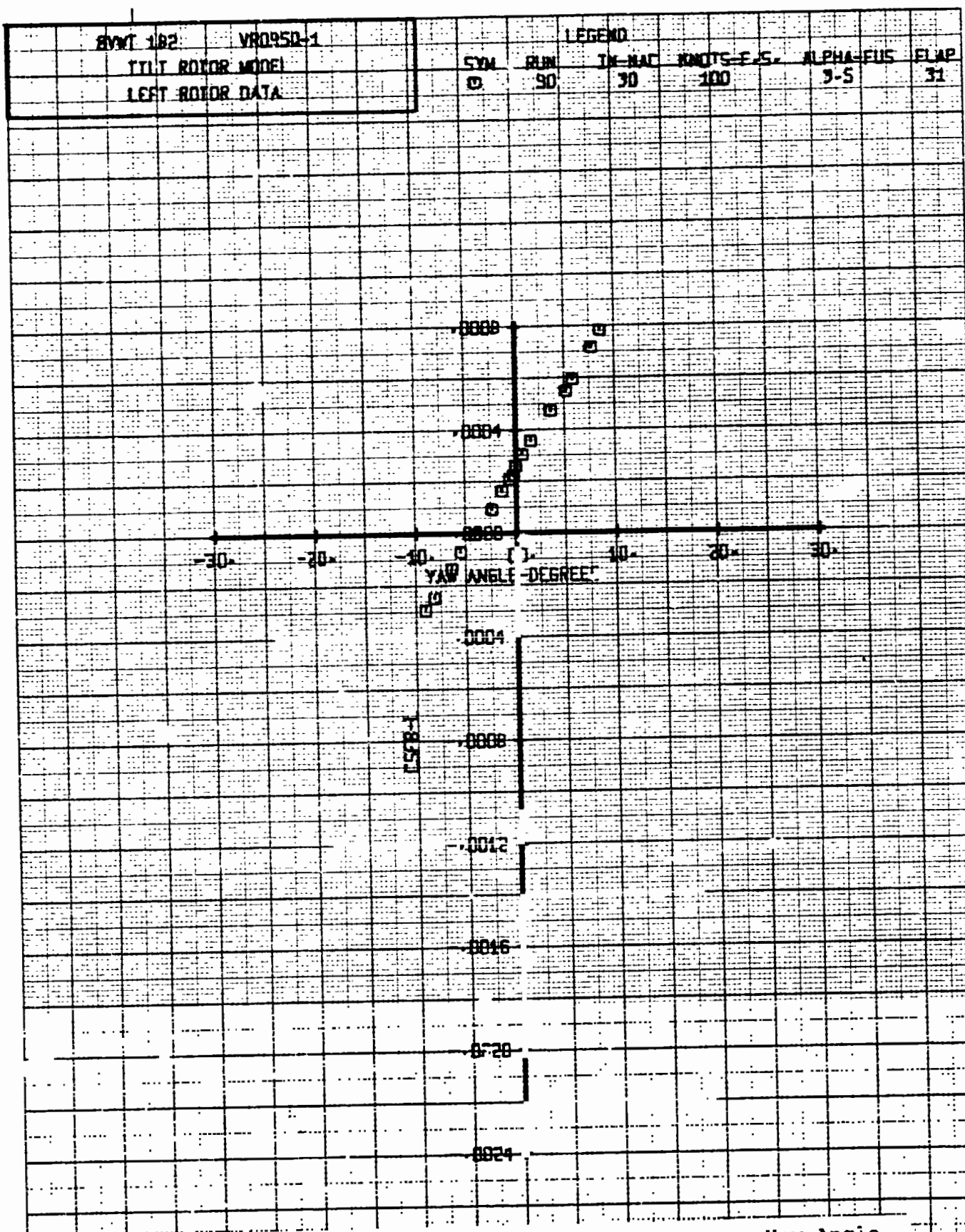


Figure 9-026. Left Rotor Side Force Coefficient Versus Yaw Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

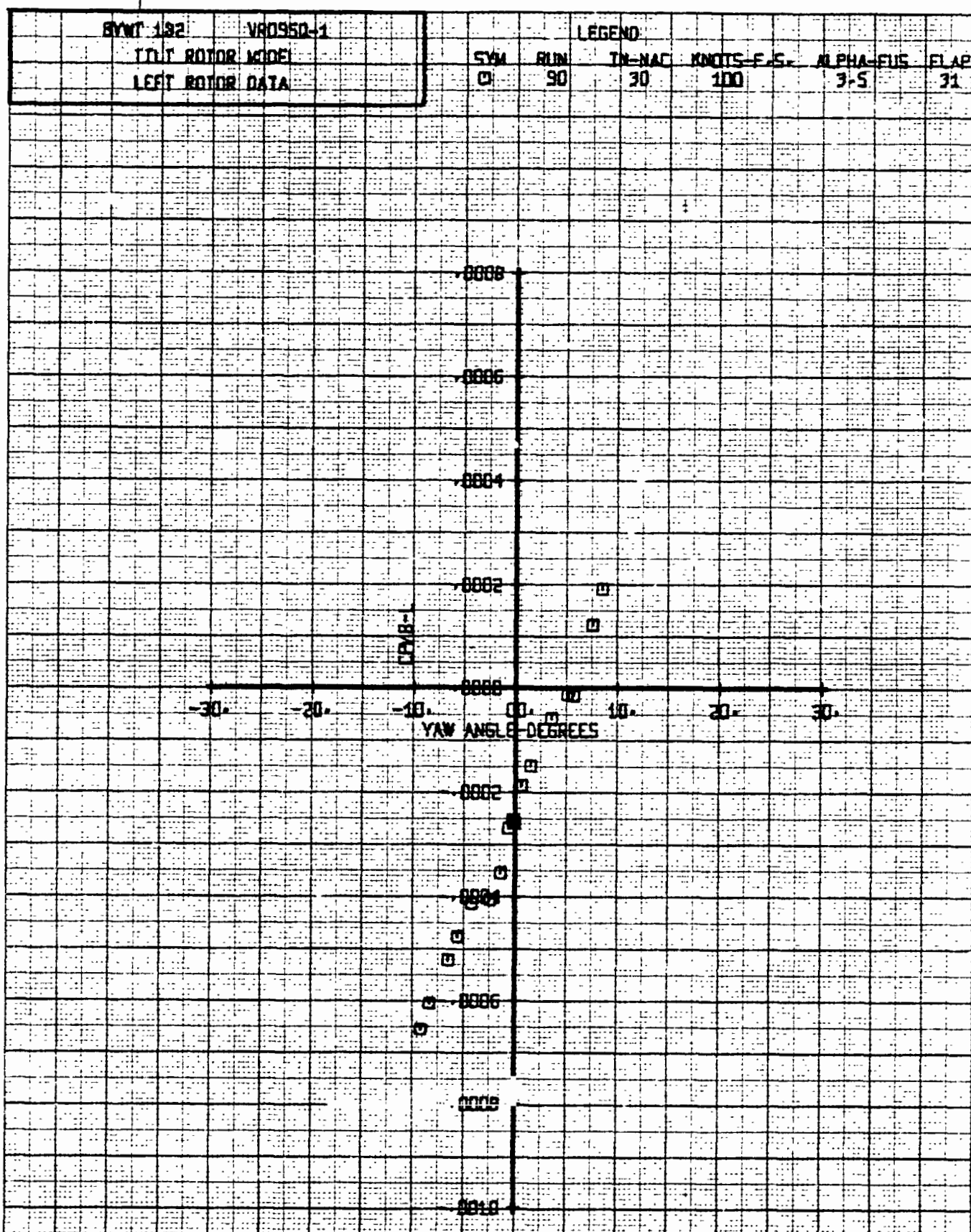


Figure 9-027. Left Rotor Pitching Moment Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

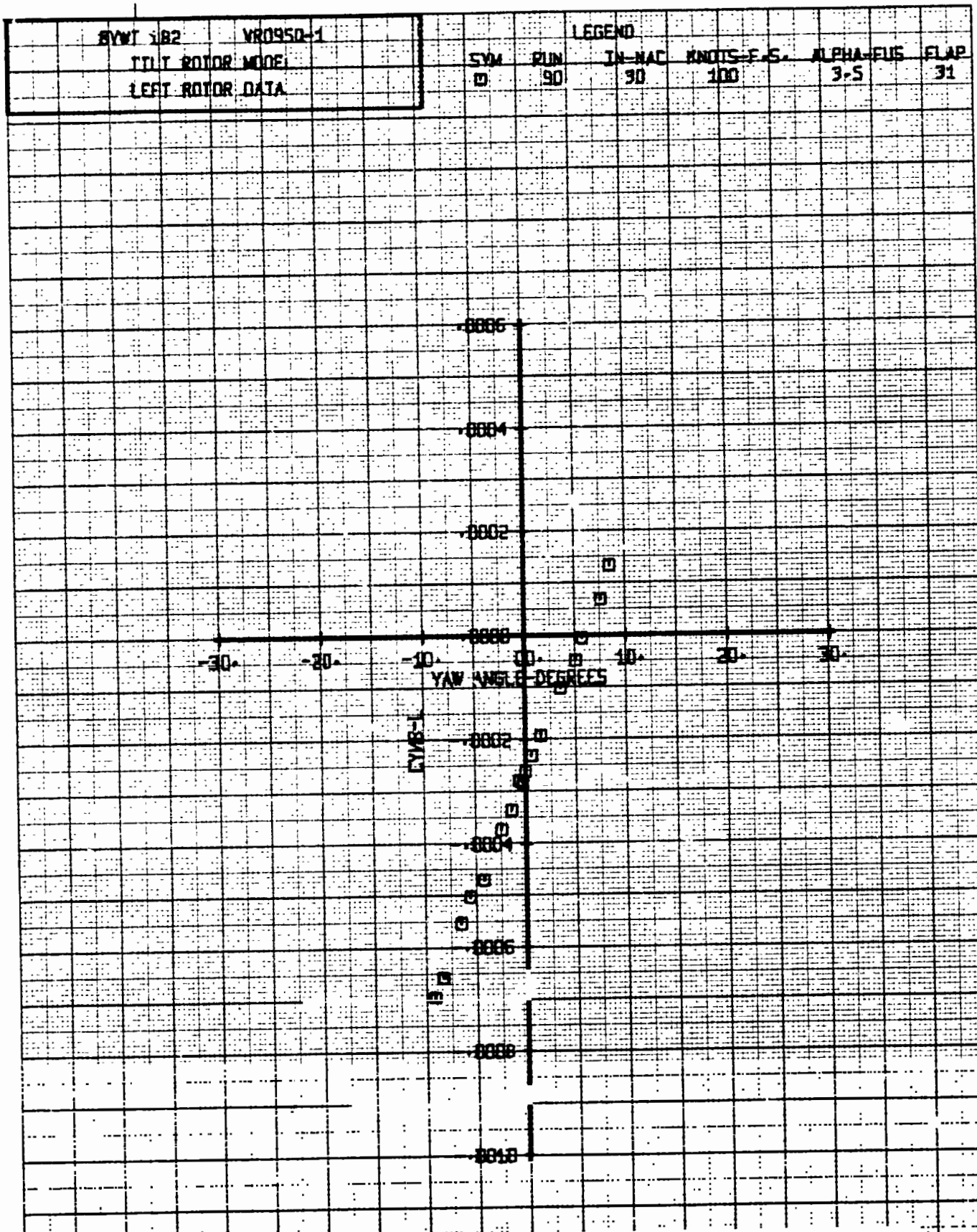
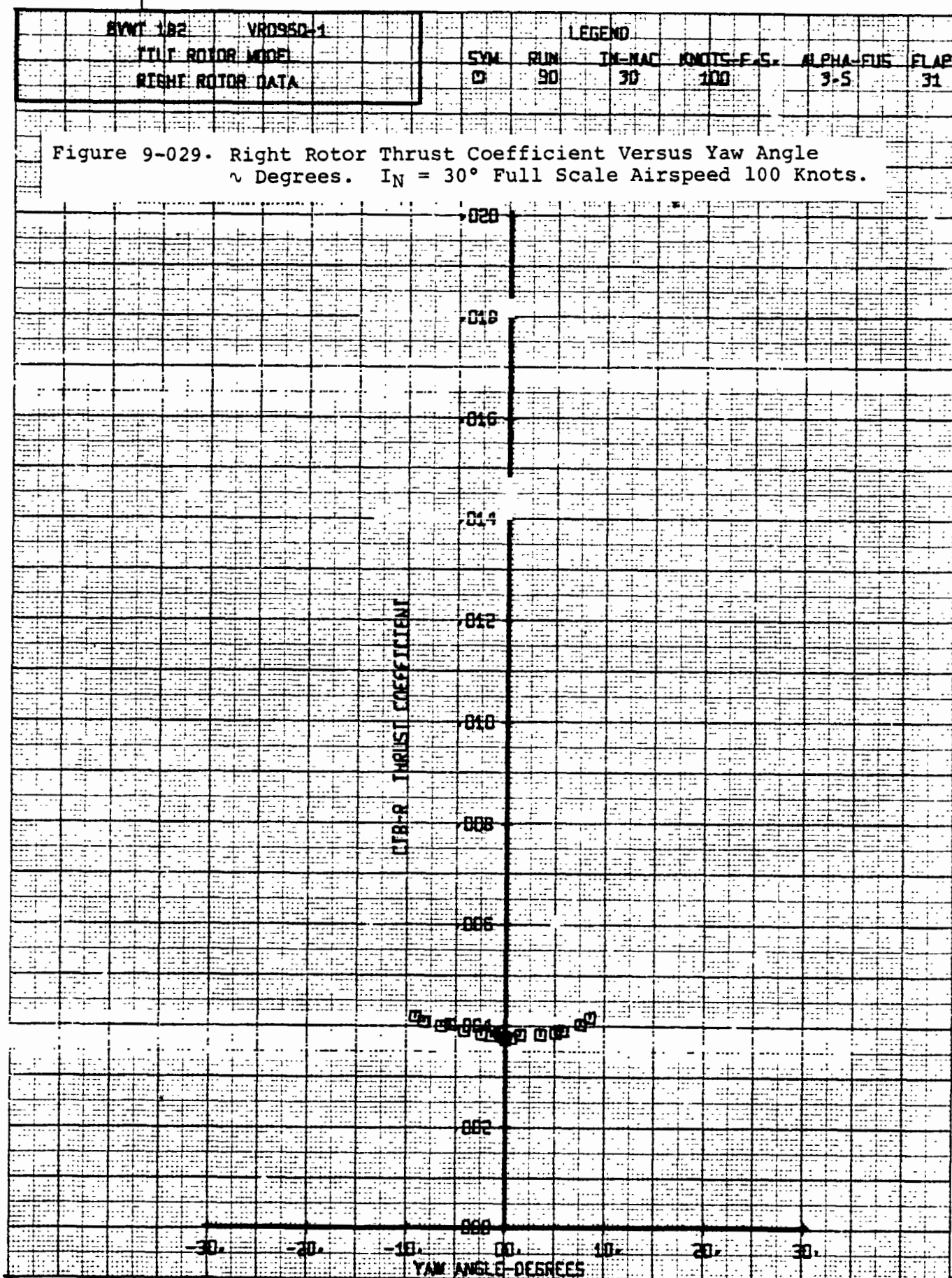
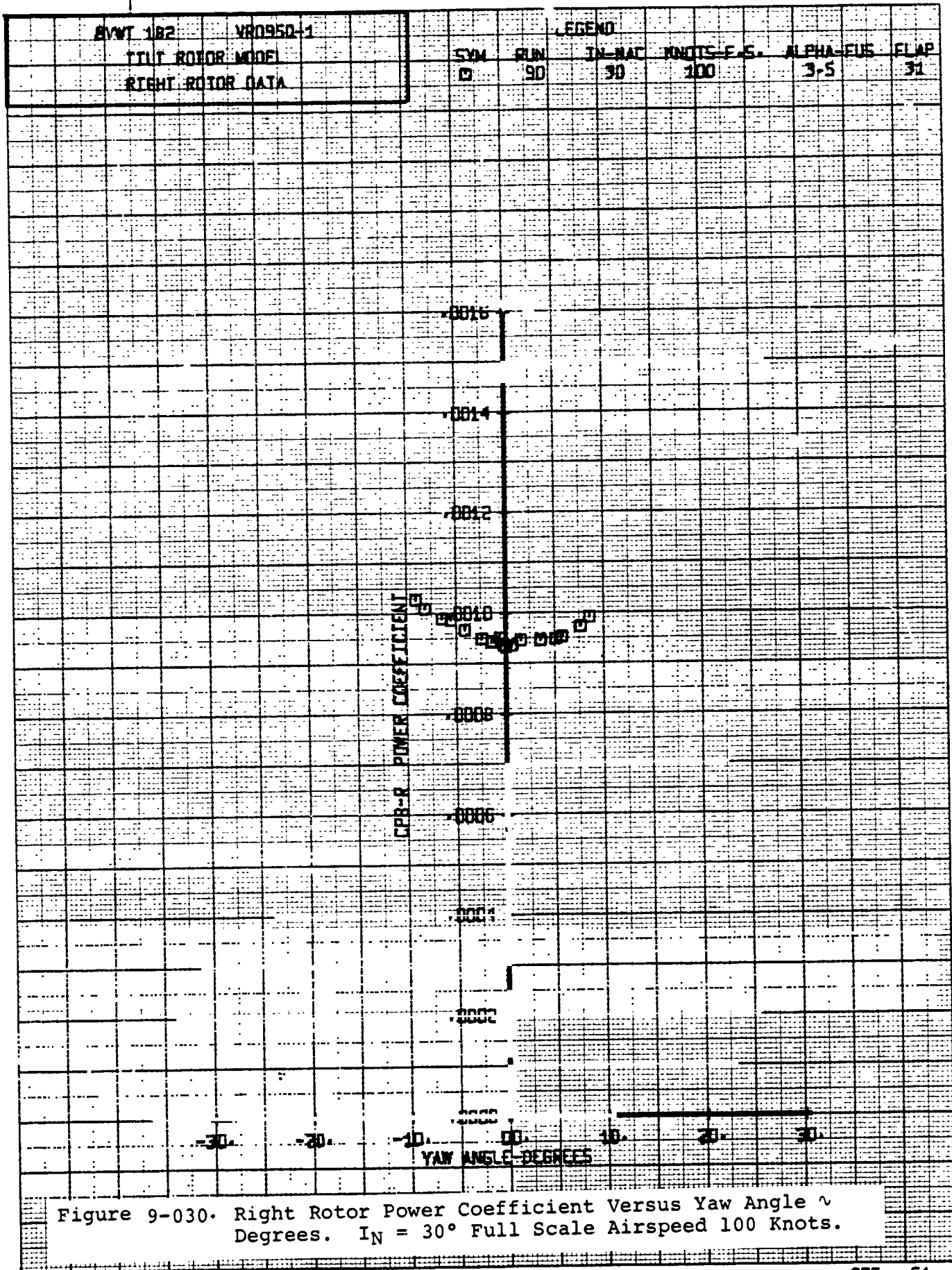
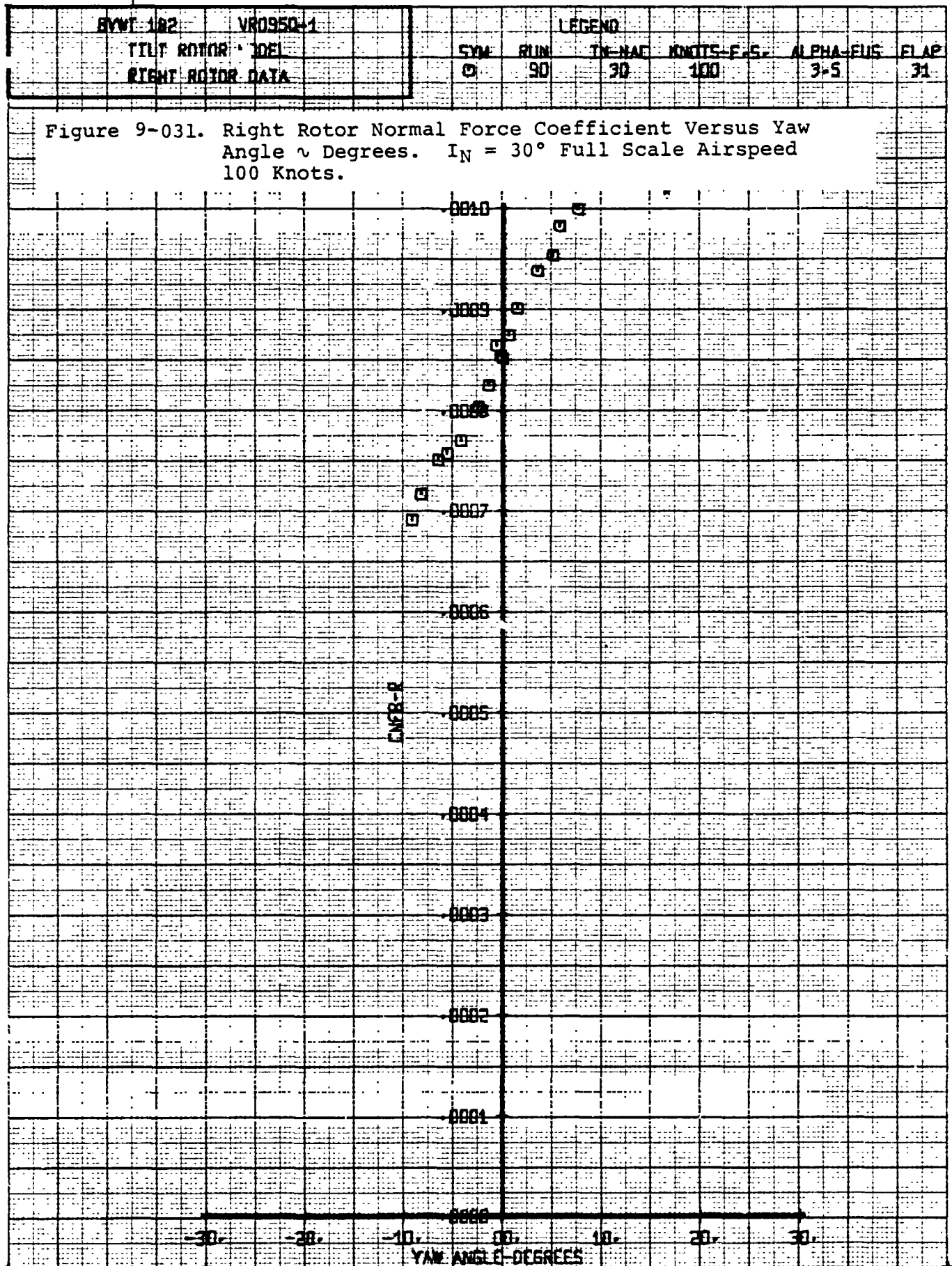


Figure 9-028. Left Rotor Yawing Moment Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

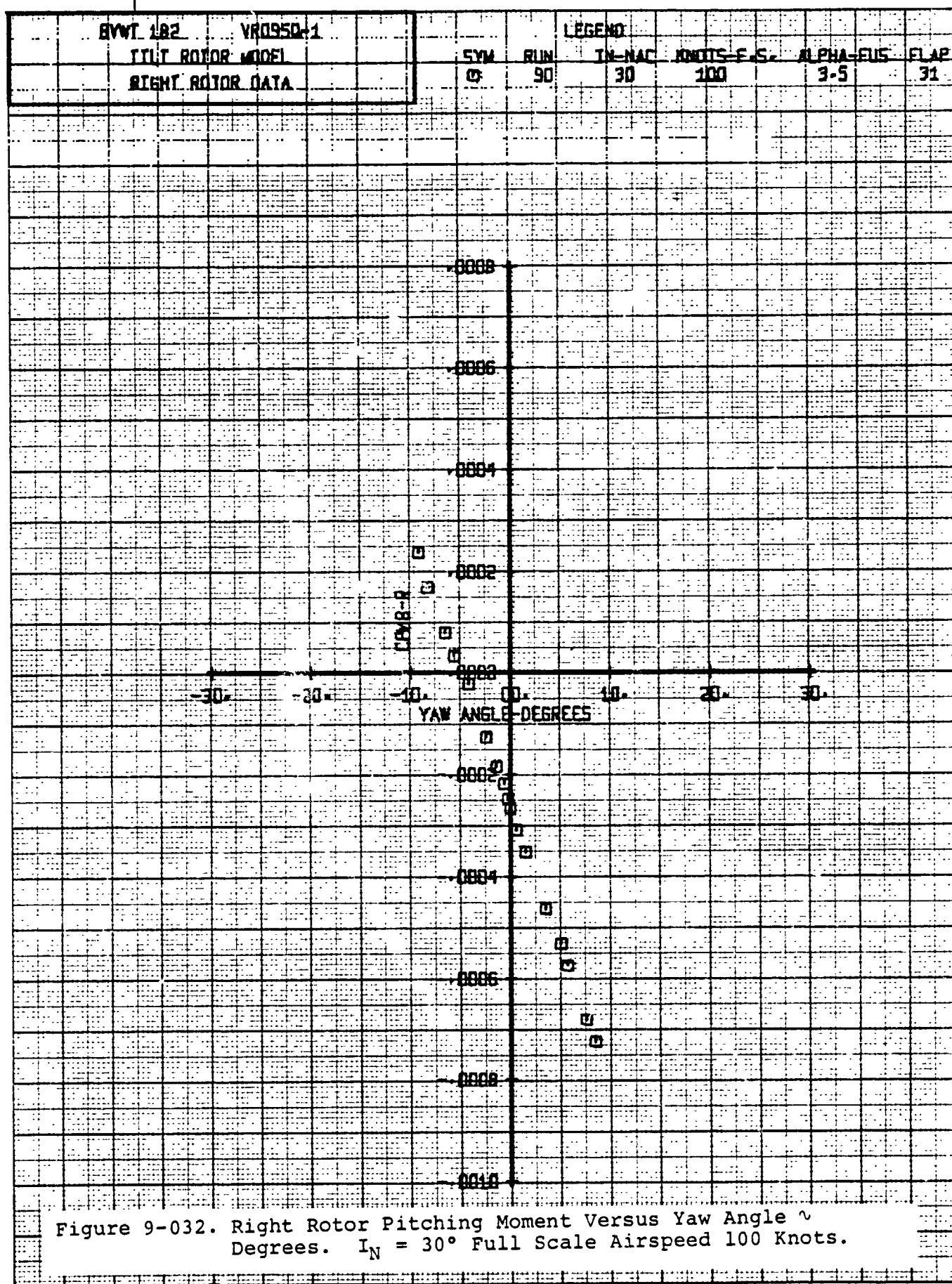






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Refer to Section 3.0



D238-10000-3

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Refer to Section 3.0

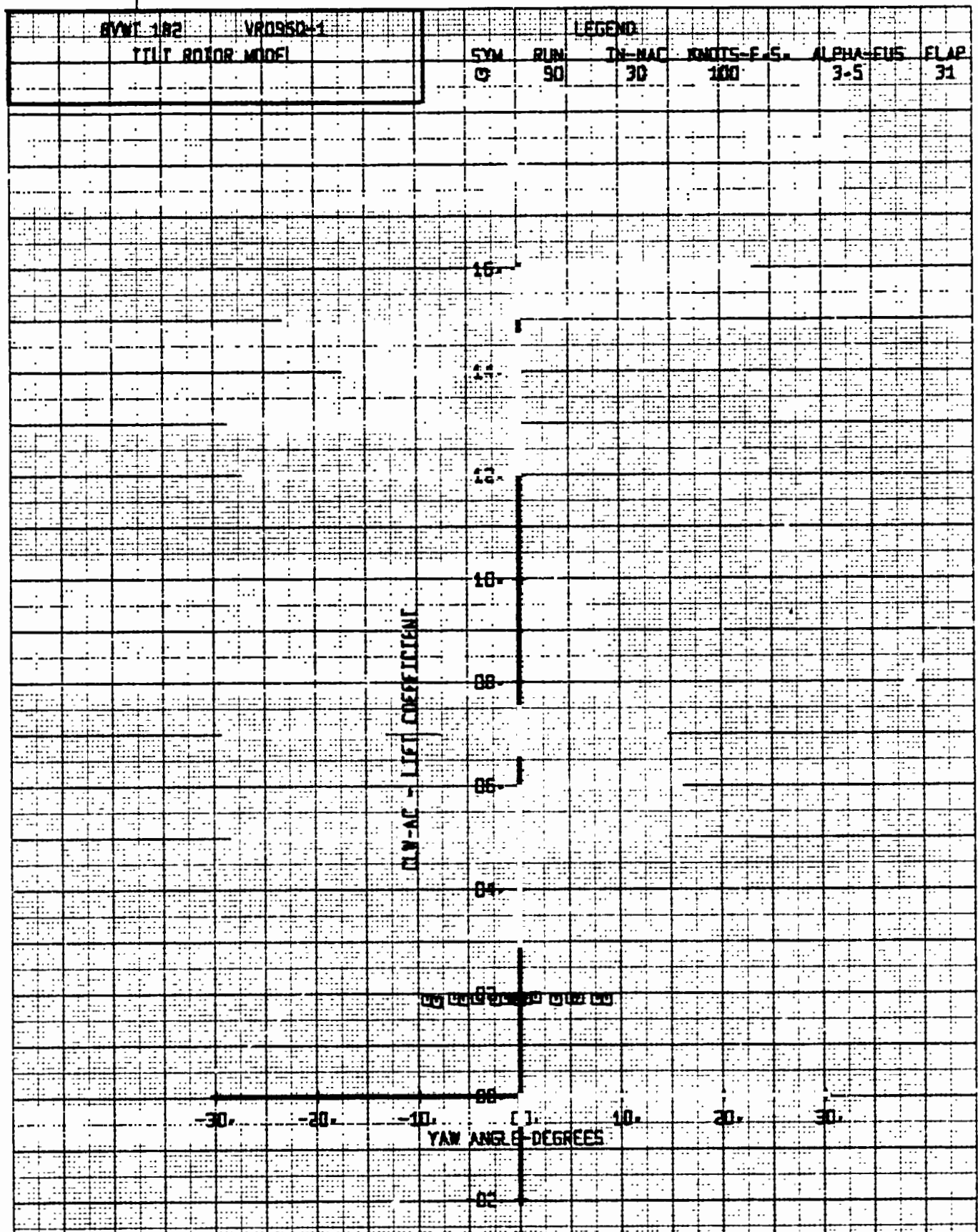
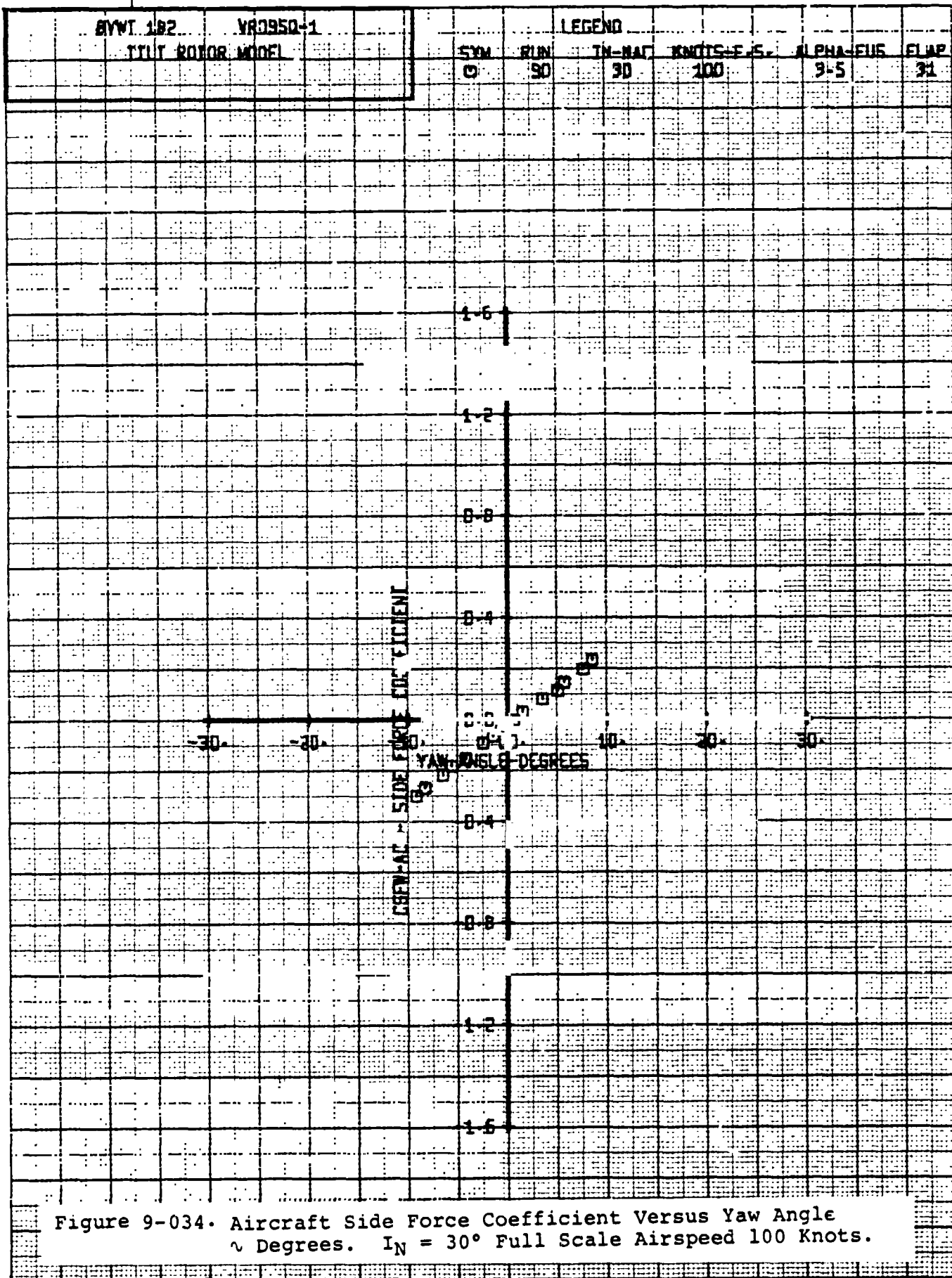
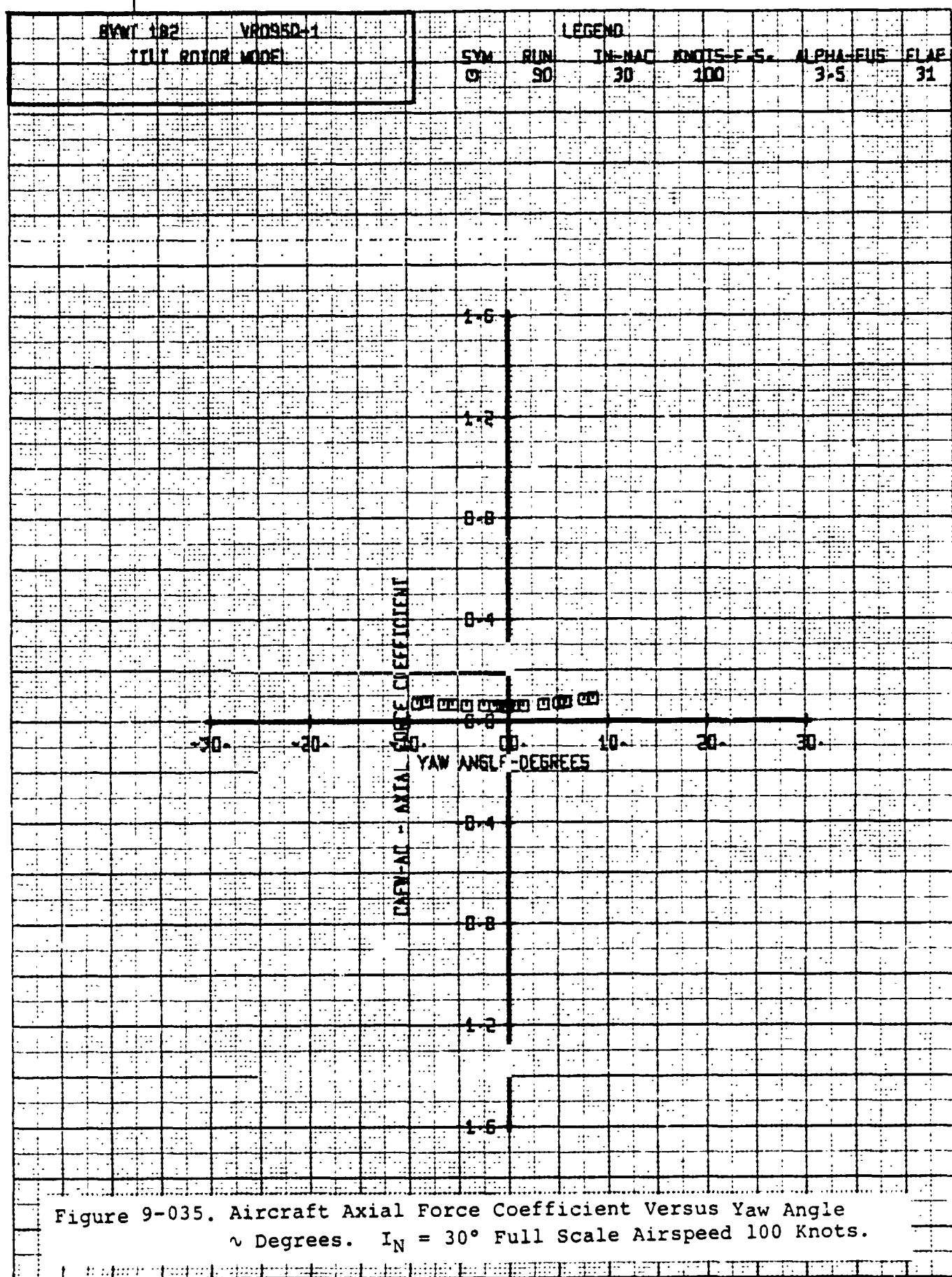
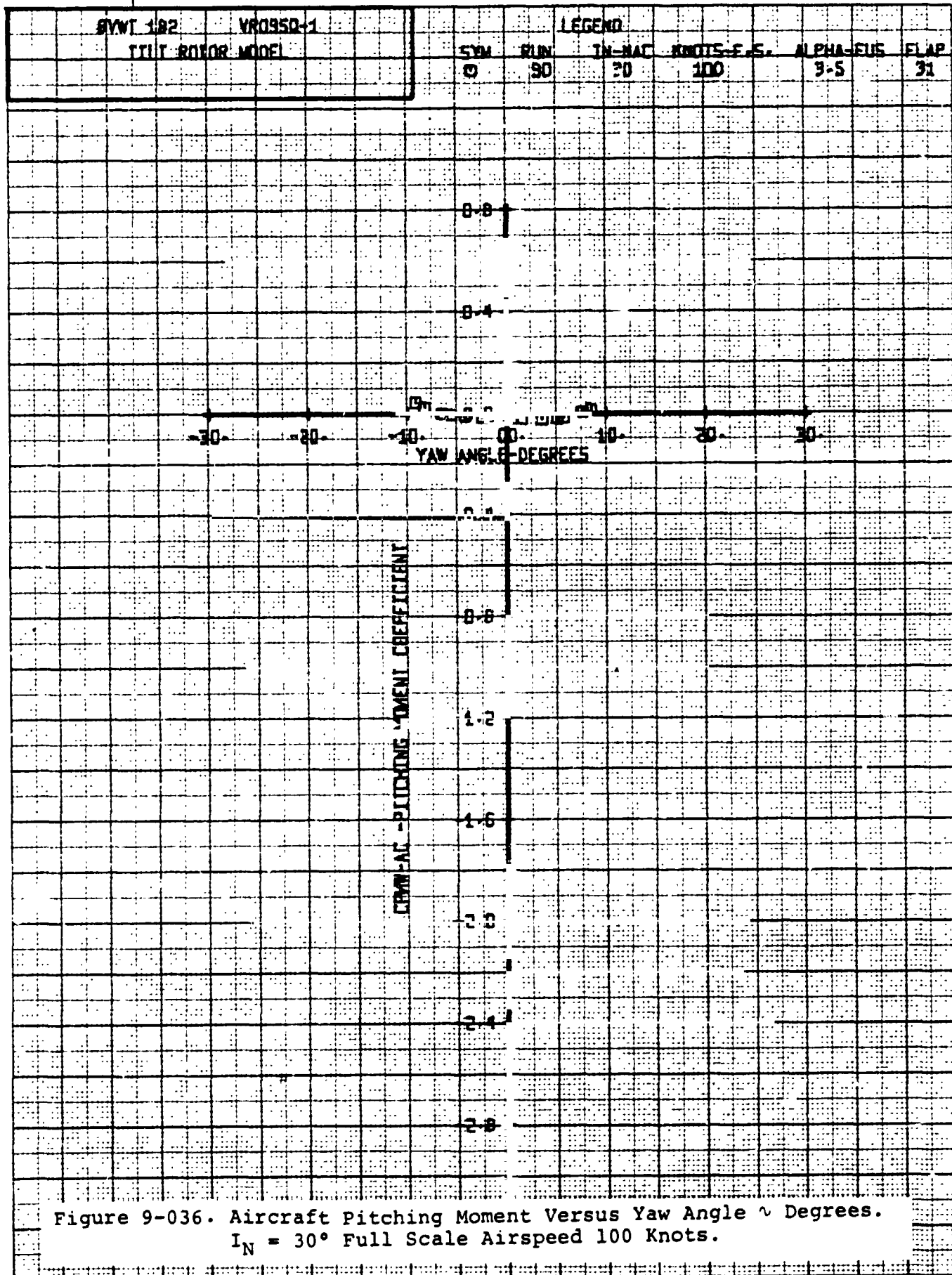
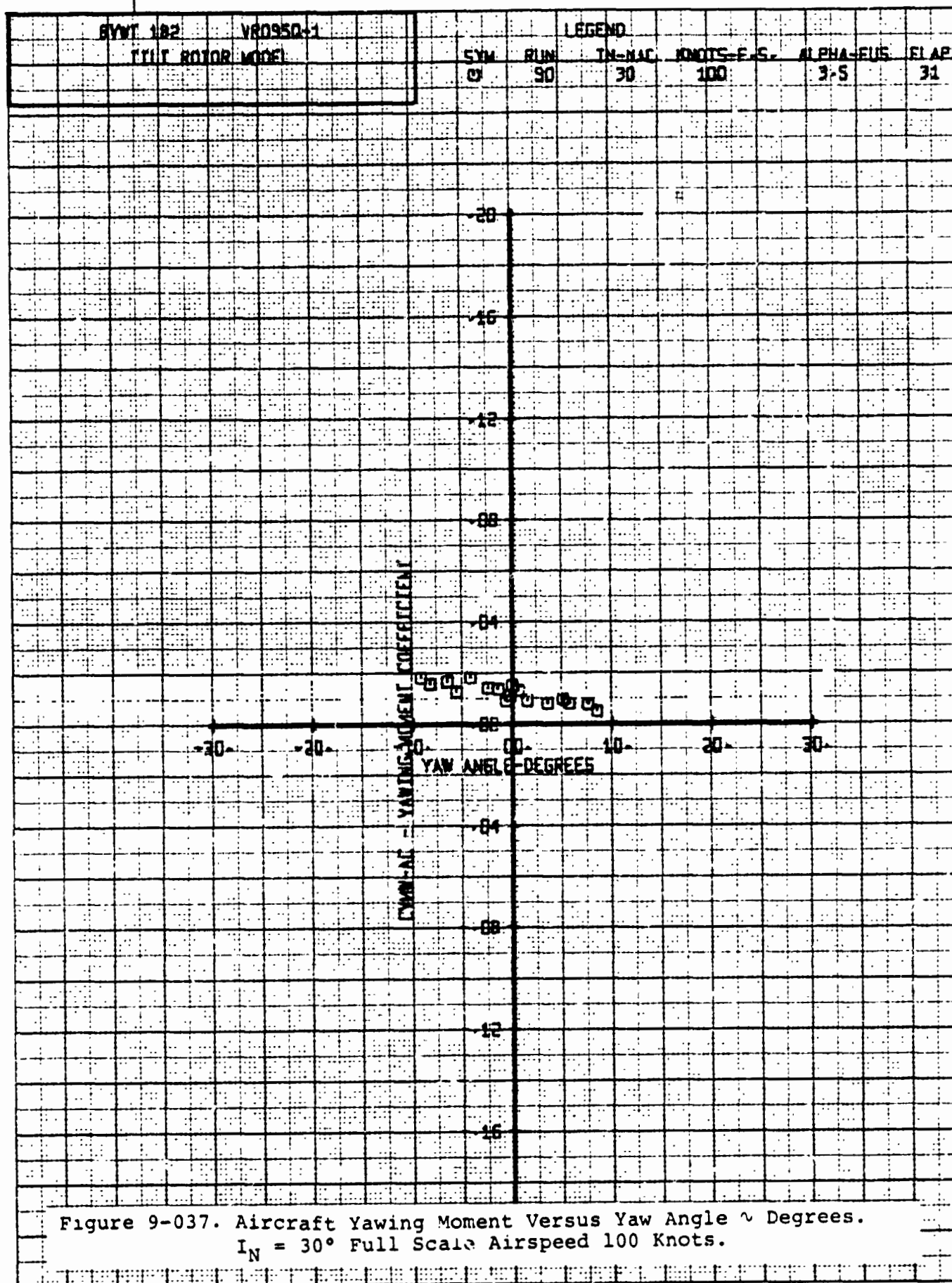


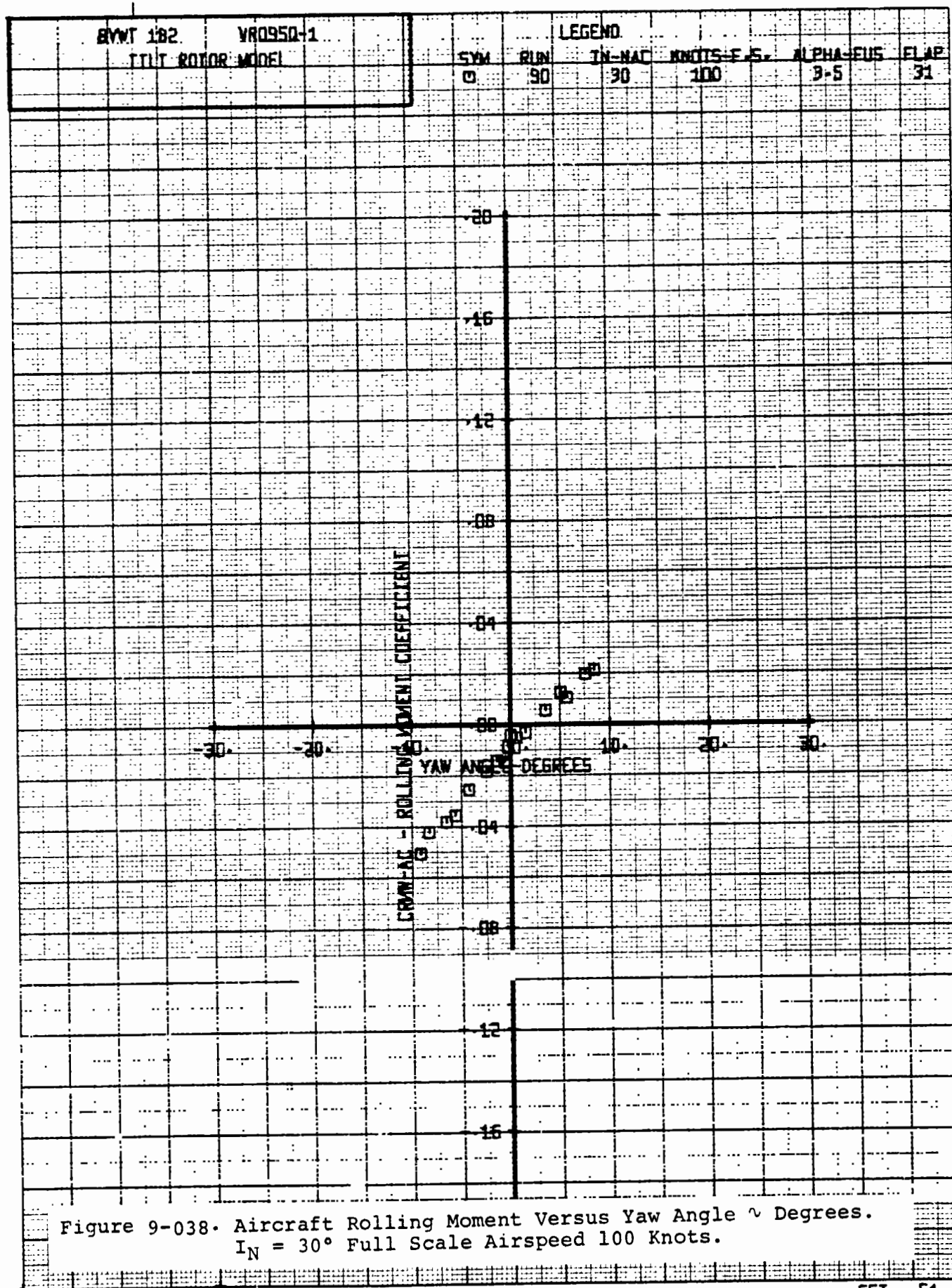
Figure 9-033. Aircraft Lift Coefficient Versus Yaw Angle γ Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.











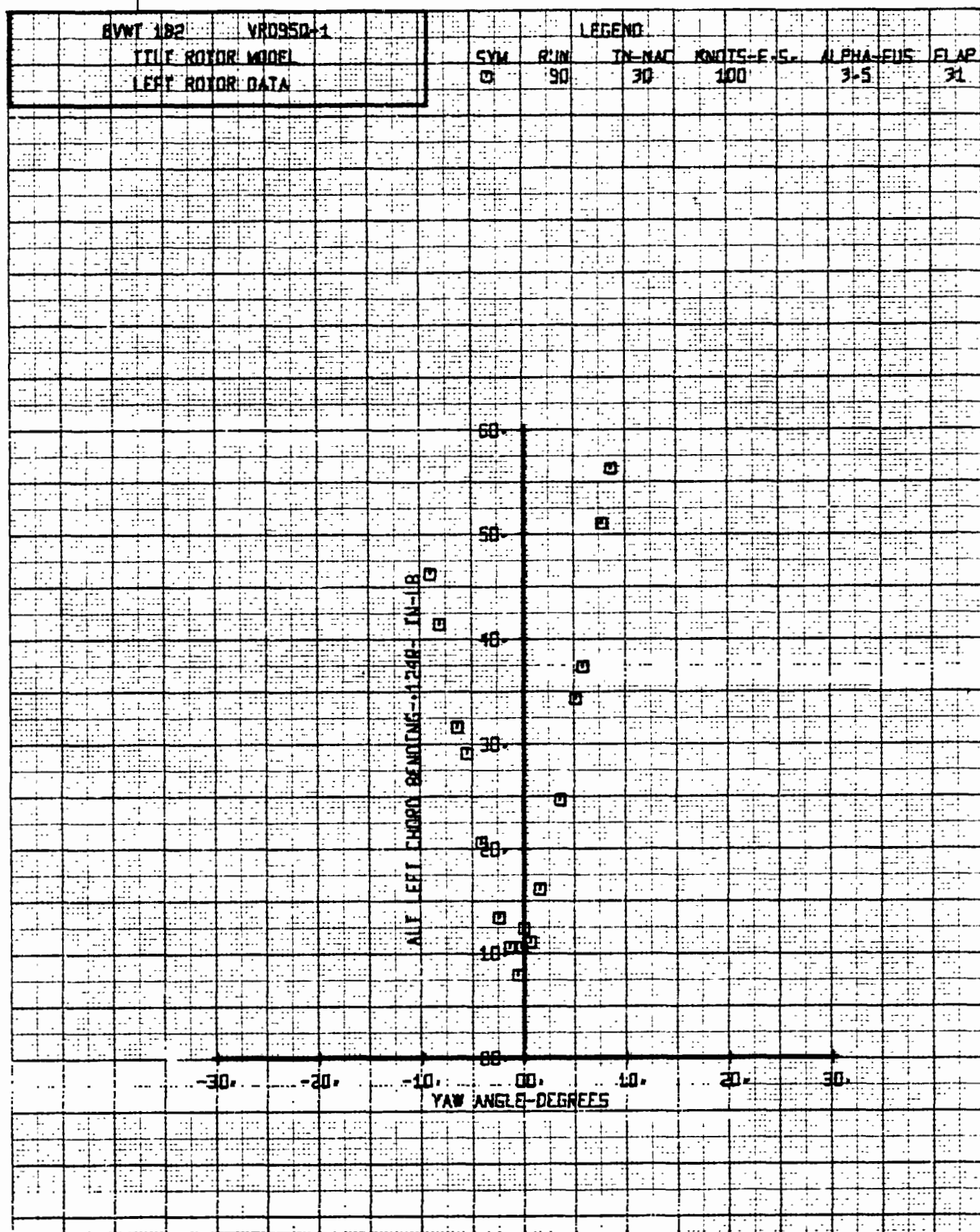
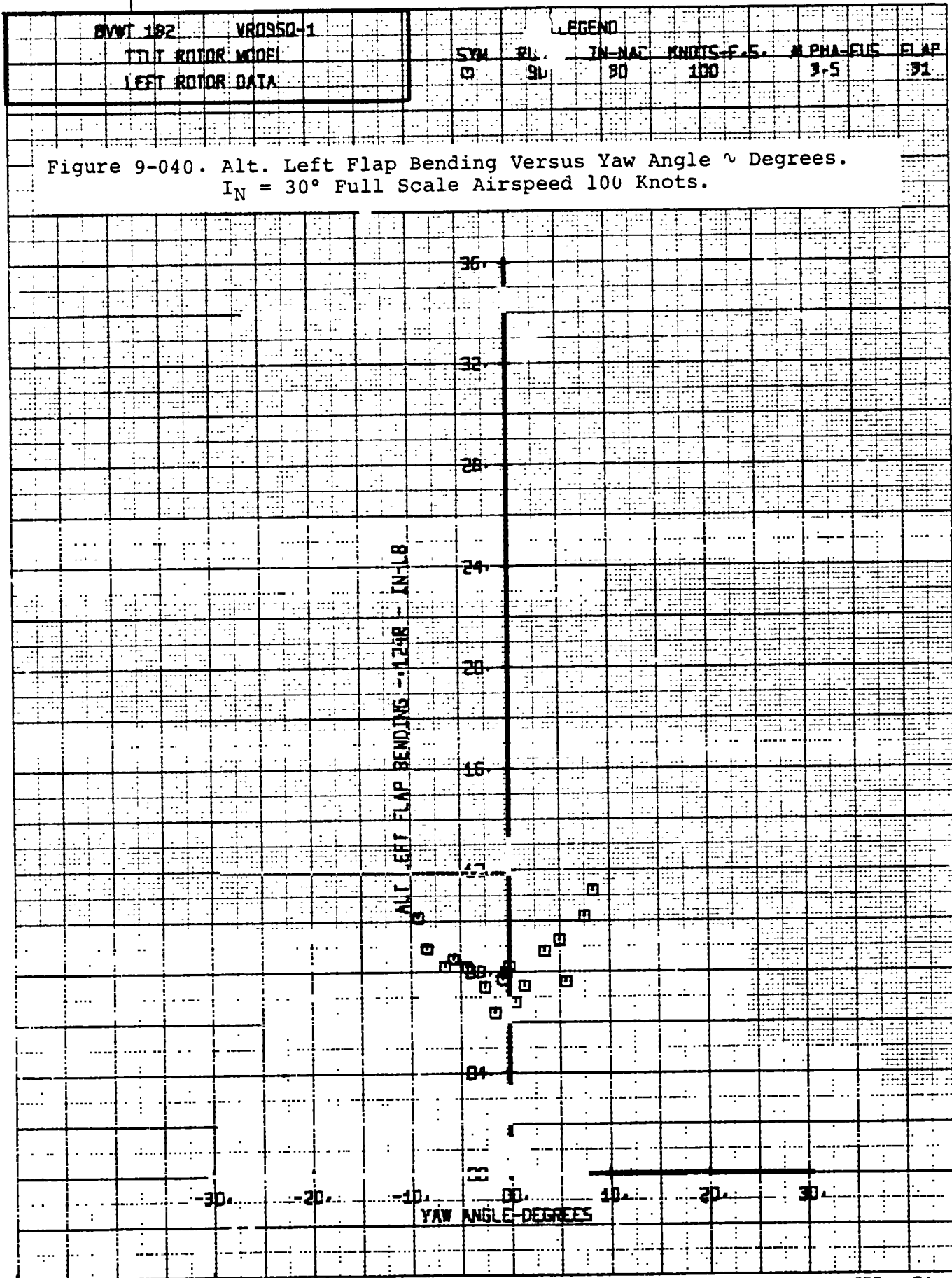


Figure 9-039. Alt. Left Chord Bending Versus Yaw Angle ~ Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



BVWT 182 VMD950-1

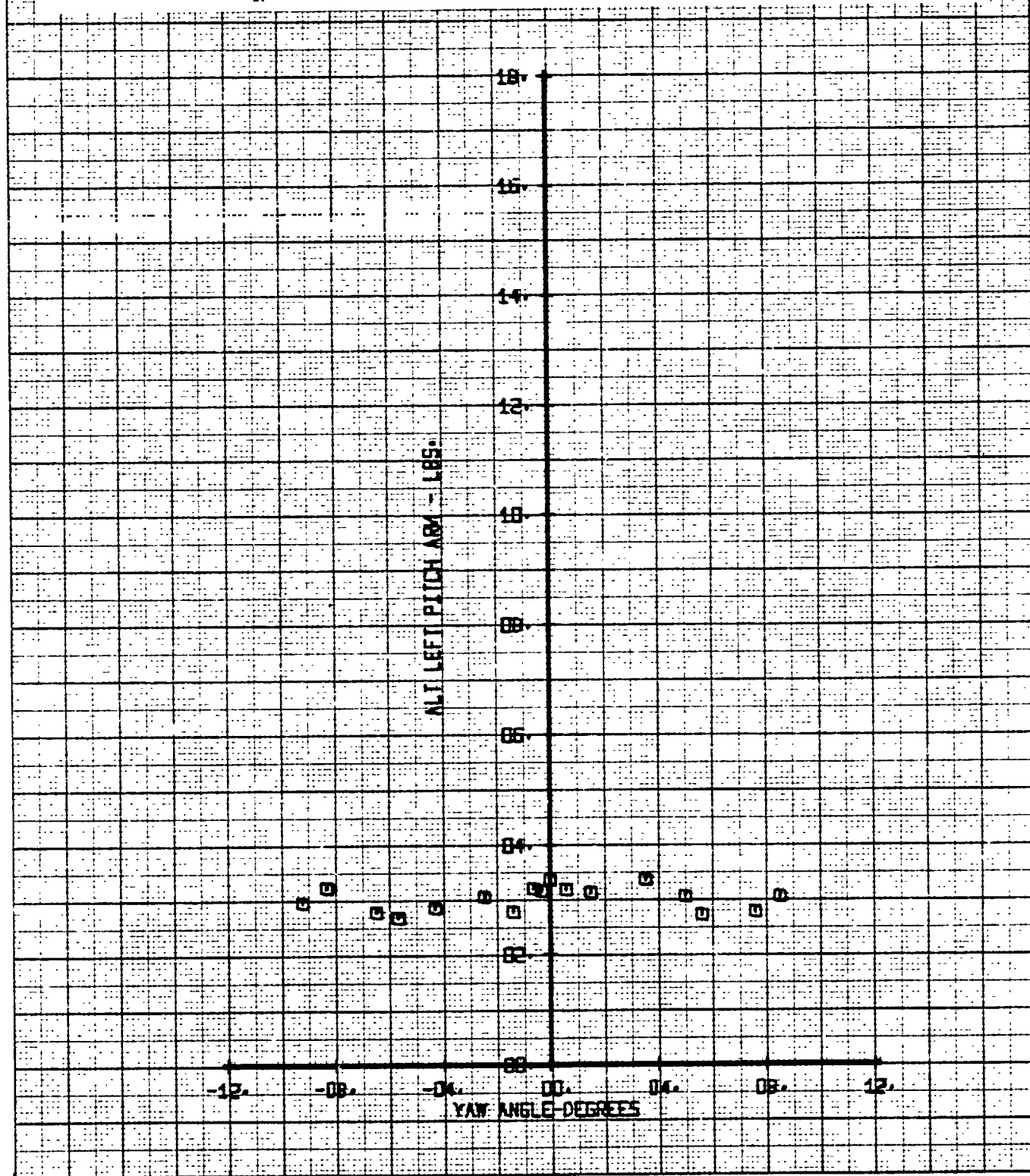
LEFT ROTOR MODEL

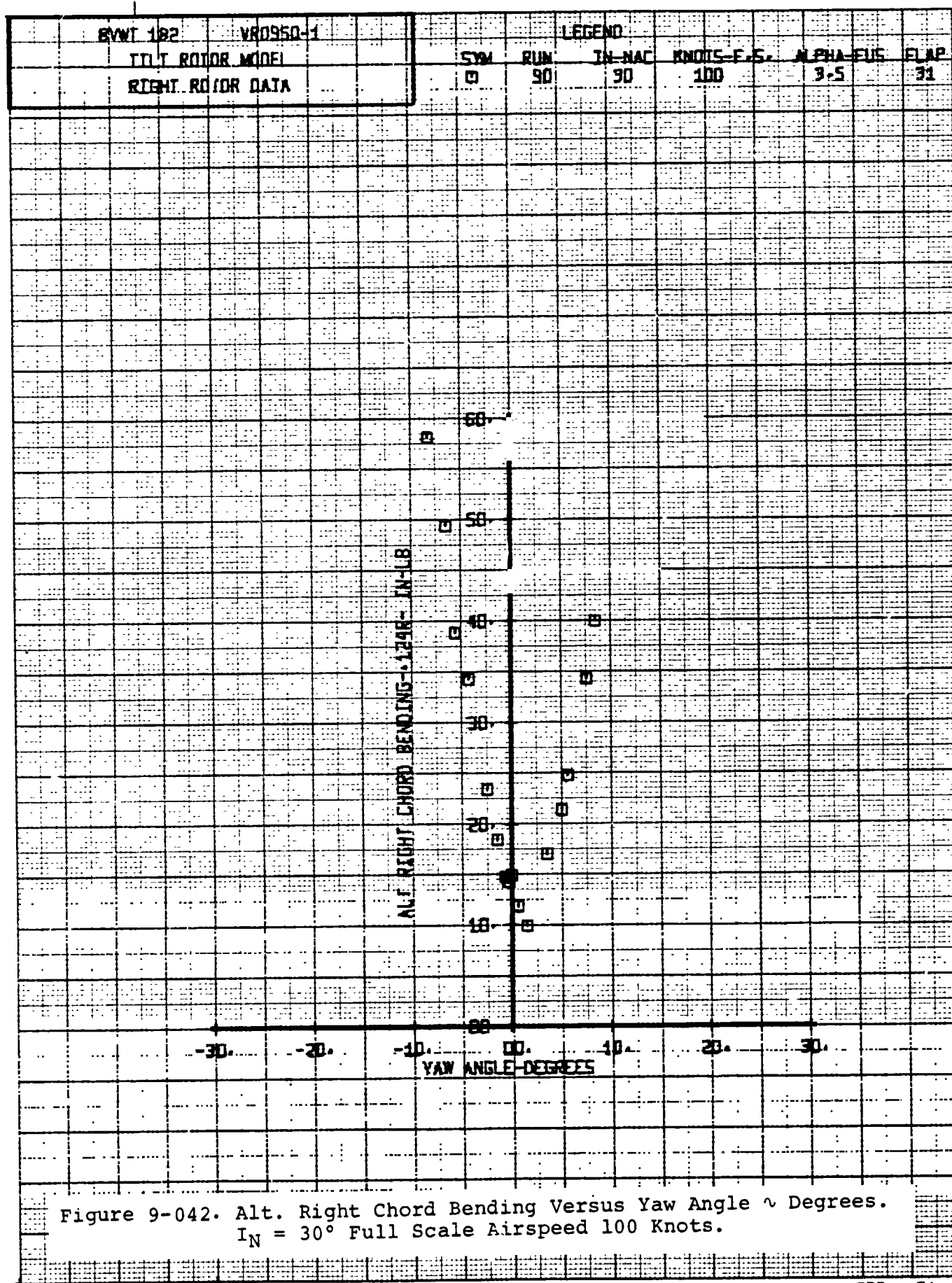
LEFT ROTOR DATA

LEGEND

SYM	RUN	IN-NAC	KNOTS-F.F.	ALPHA-FUS	FLAP
□	90	30	100	3-5	31

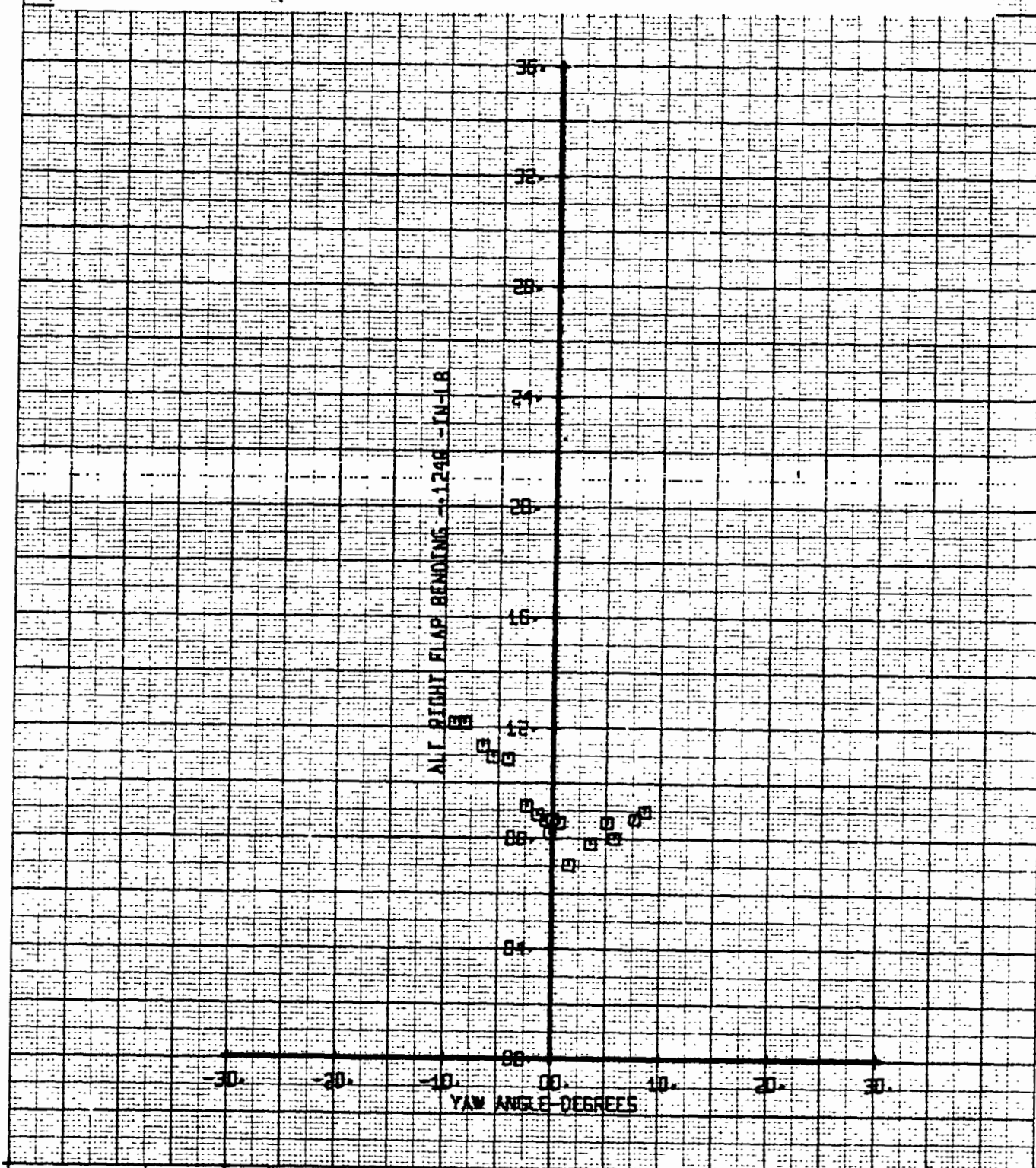
Figure 9-041. Alt. Left Pitch Link Load Versus Yaw Angle ~ Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.





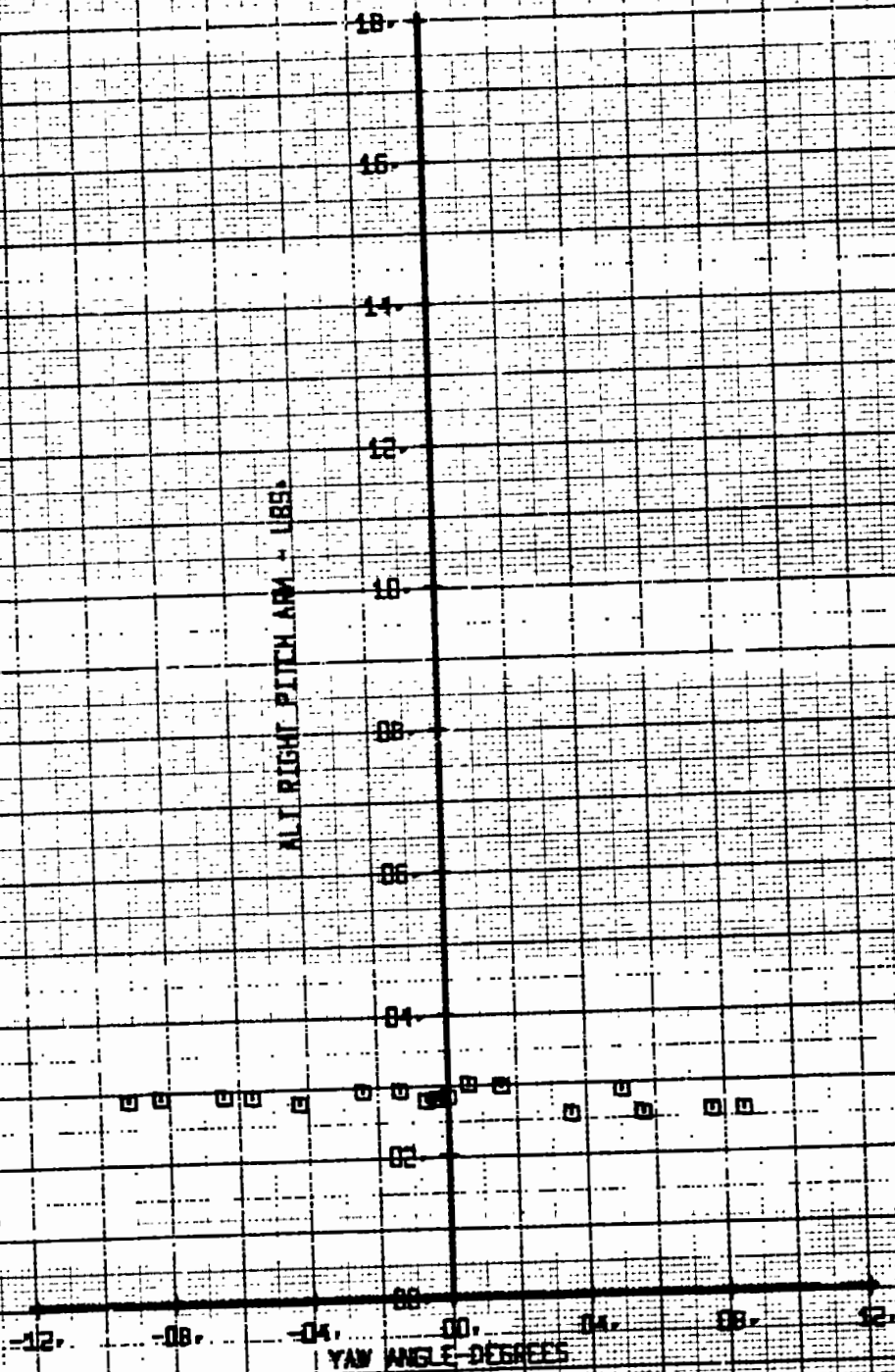
BVWT 182	VROSSD-1	LEGEND				
LEFT ROTOR MODE		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		0	90	30	100	3-5
						FLAP 31

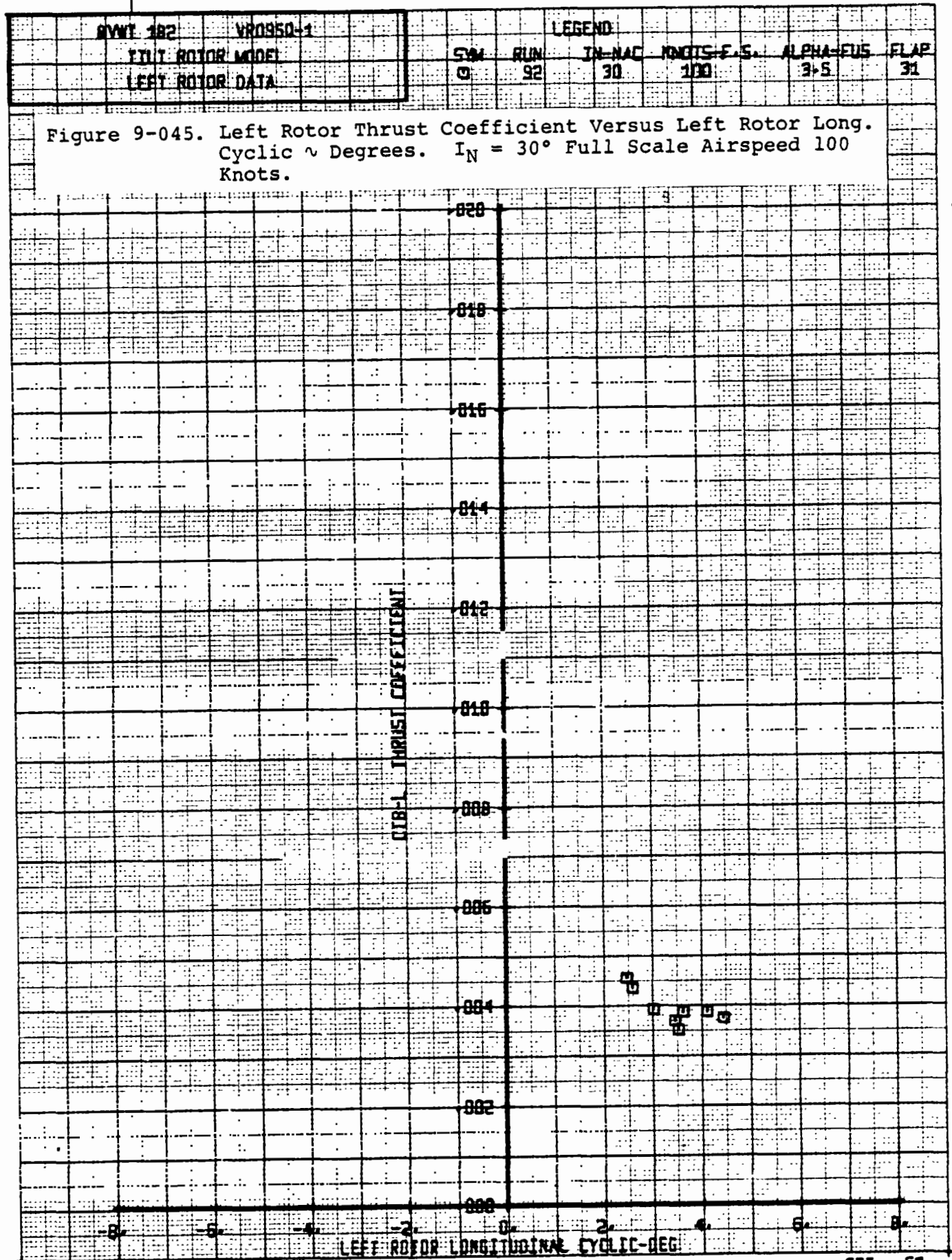
Figure 9-043. Alt. Right Flap Bending Versus Yaw Angle ψ Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



BWWT 1B2	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	PLN	IN-MAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	90	90	100	3-5
						FLAP 31

Figure 9-044. Alt. Right Pitch Link Load Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.





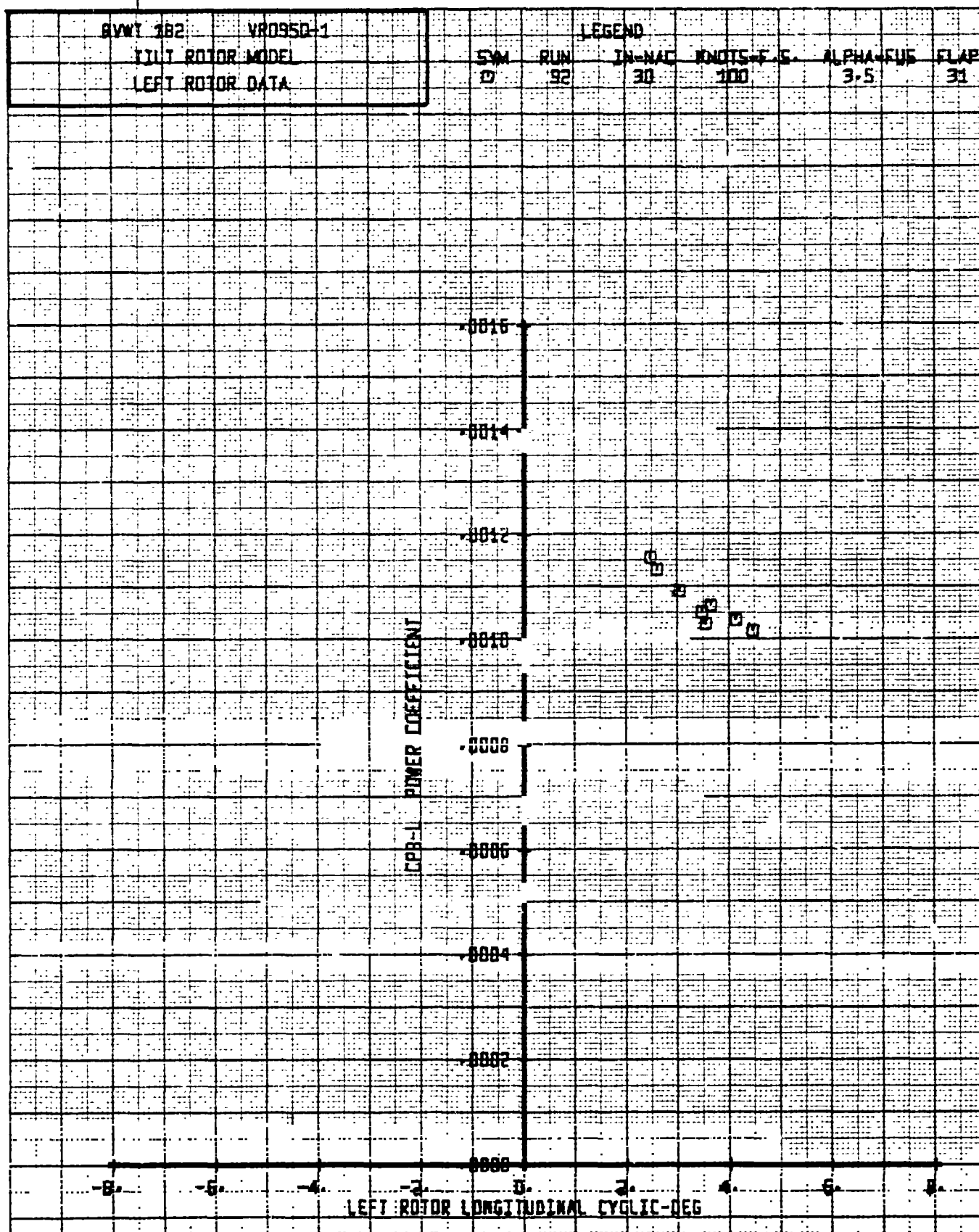
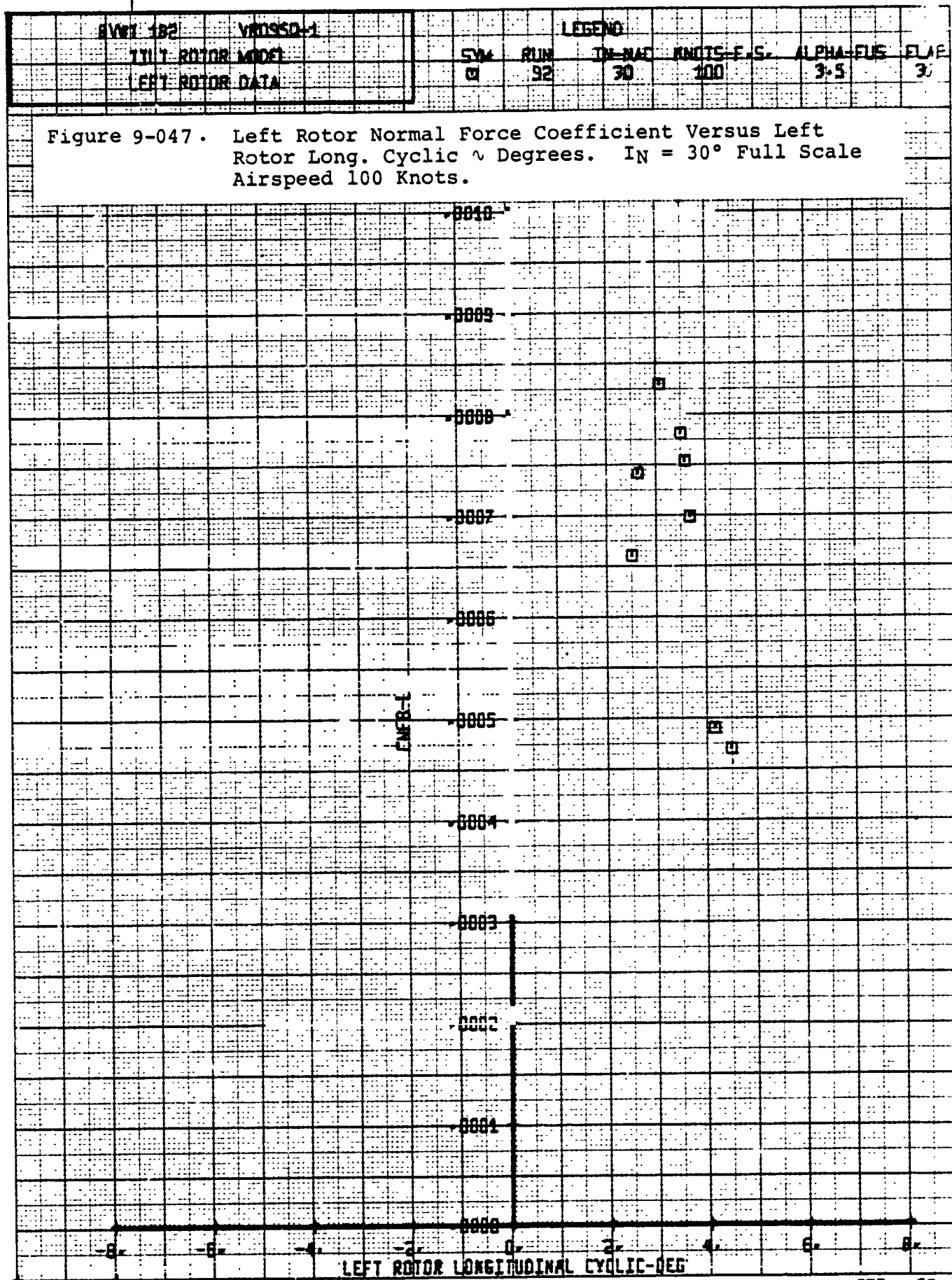


Figure 9-046. Left Rotor Power Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



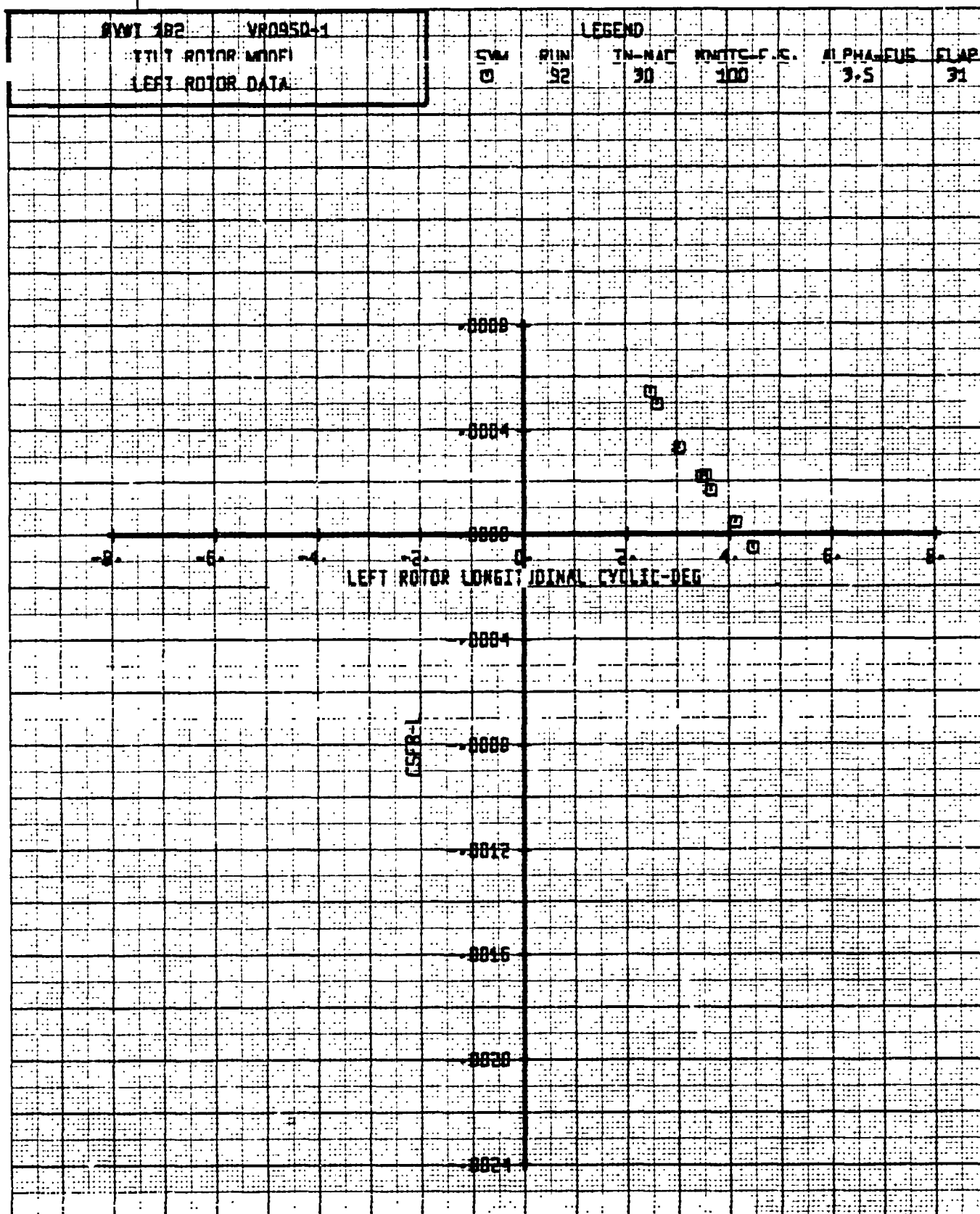


Figure 9-048. Left Rotor Side Force Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. IN = 30° Full Scale
Airspeed 100 Knots.

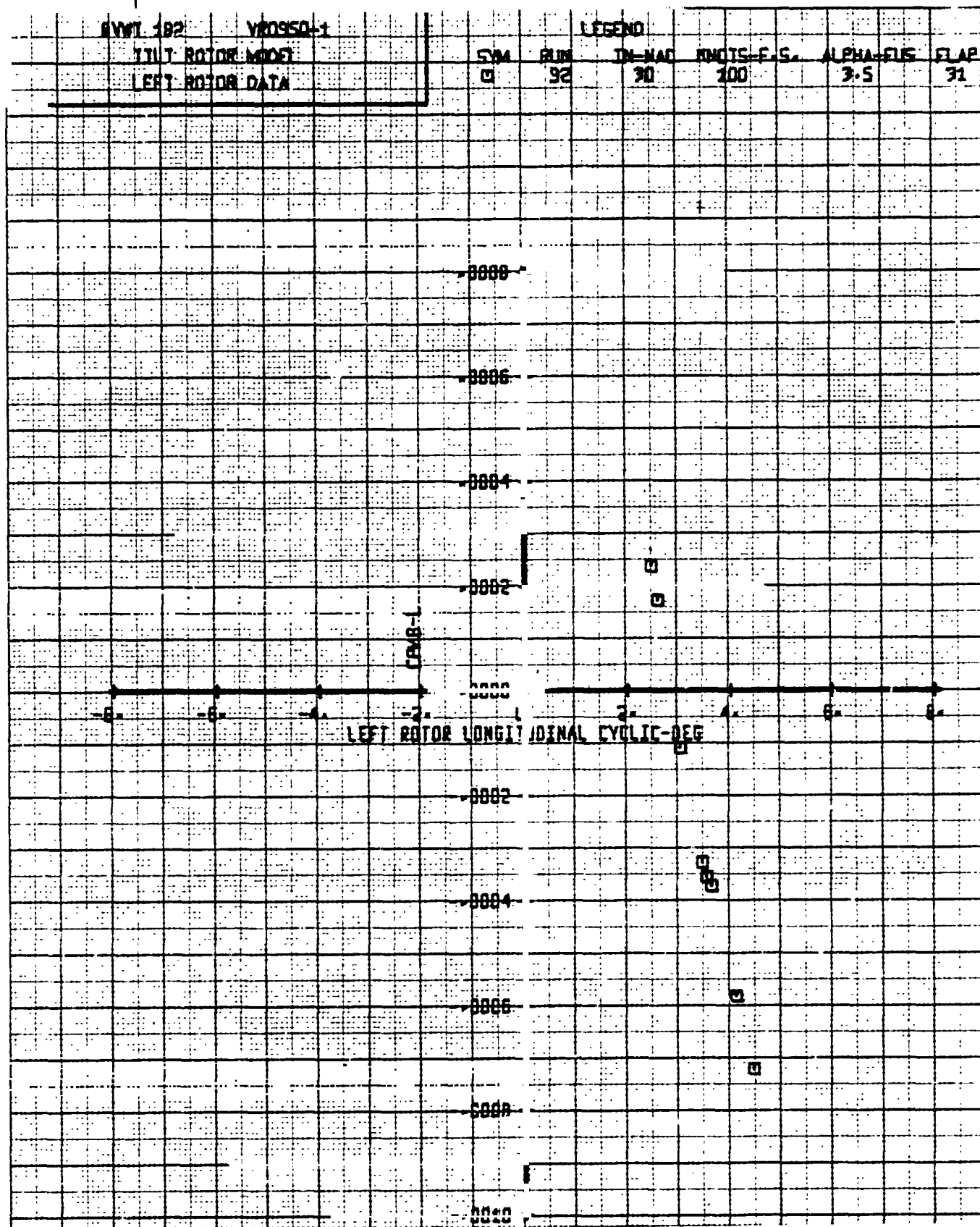


Figure 9-0-9. Left Rotor Pitching Moment Versus Left Rotor Long. Cyclic ~ Degrees. IN = 30° Full Scale Airspeed 100 Knots.

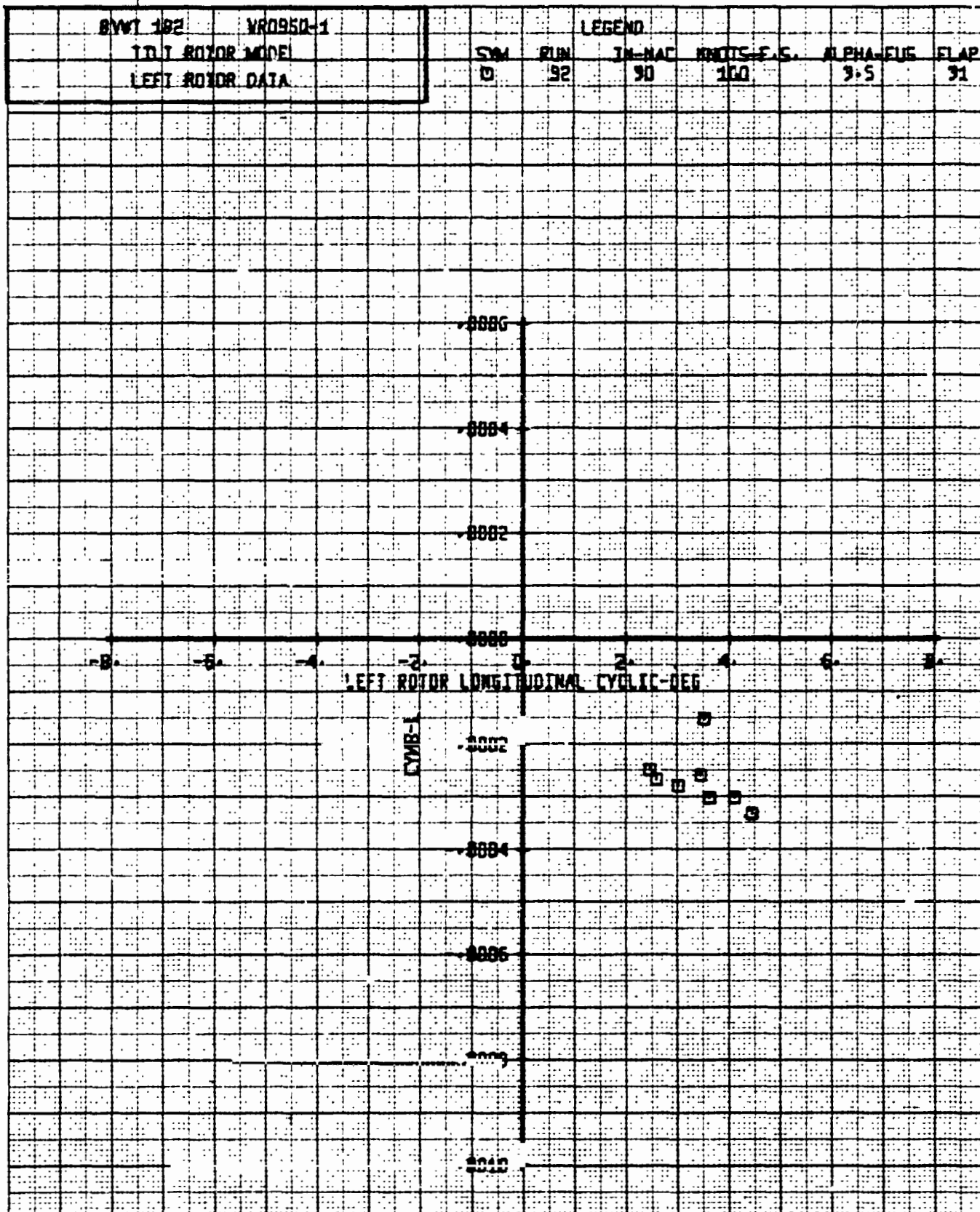
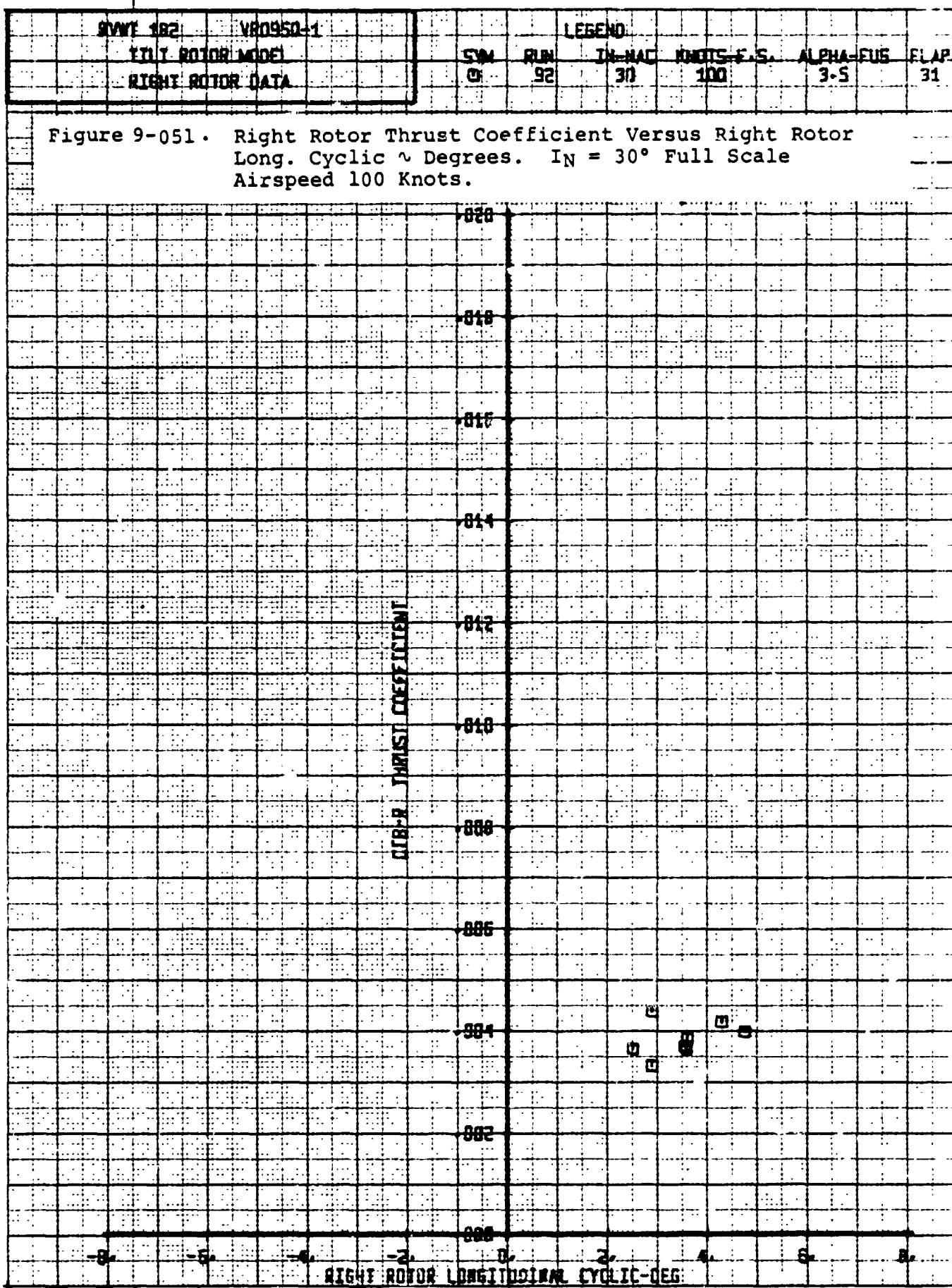


Figure 9-050. Left Rotor Yawing Moment Versus Left Rotor Long. Cyclic ~ Degrees. IN = 30° Full Scale Airspeed 100 Knots.



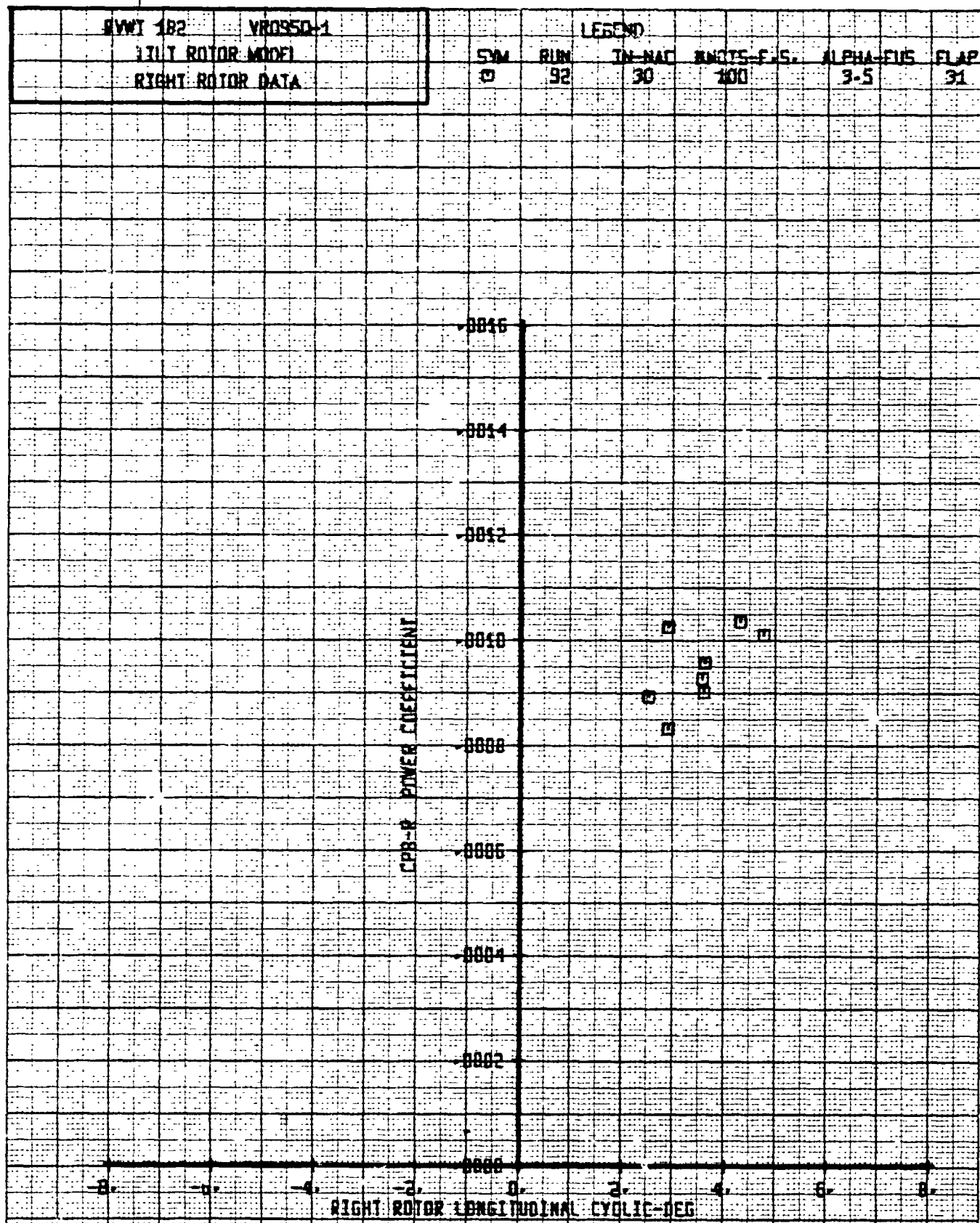
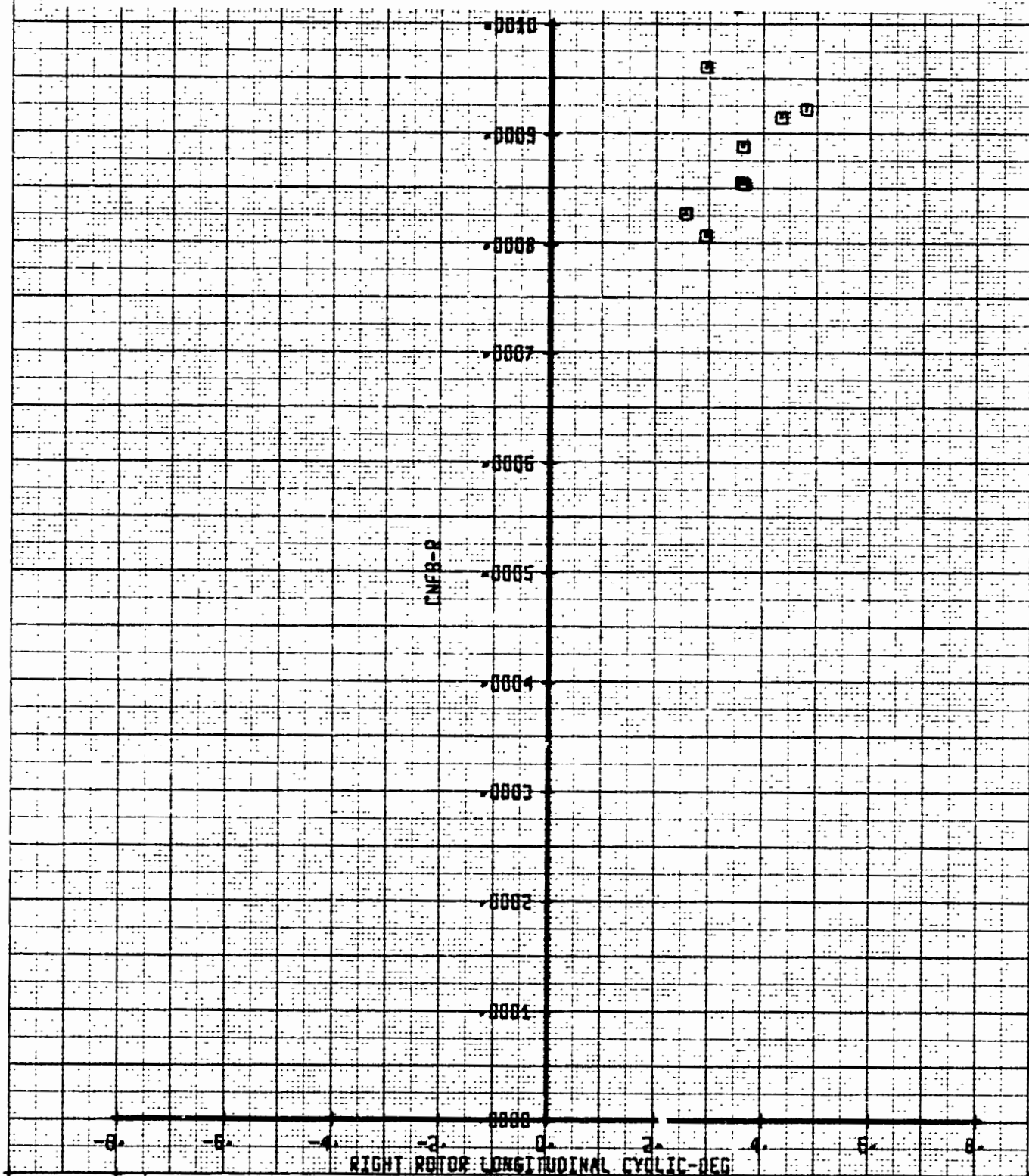


Figure 9-052. Right Rotor Power Coefficient Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 100 Knots.

RWY 18Z		VR0950-1		LEGEND					
TILT ROTOR MODE				SYM	RUN	IN-NAC	KNOTS-F-S	ALPHA-FUS	FLAP
RIGHT ROTOR DATA				0	92	30	100	3.5	31

Figure 9-053. Right Rotor Normal Force Coefficient Versus Right Rotor Long. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



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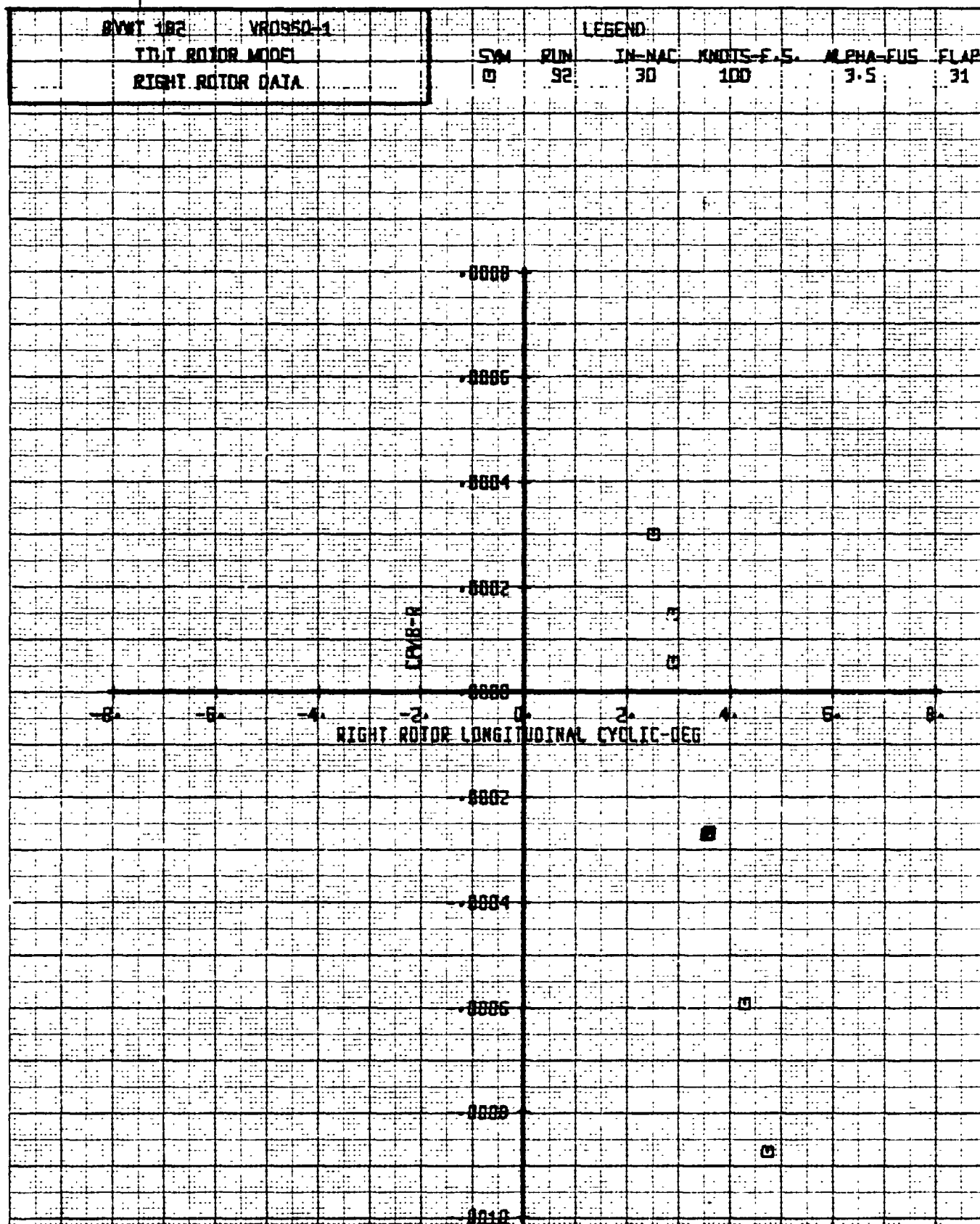


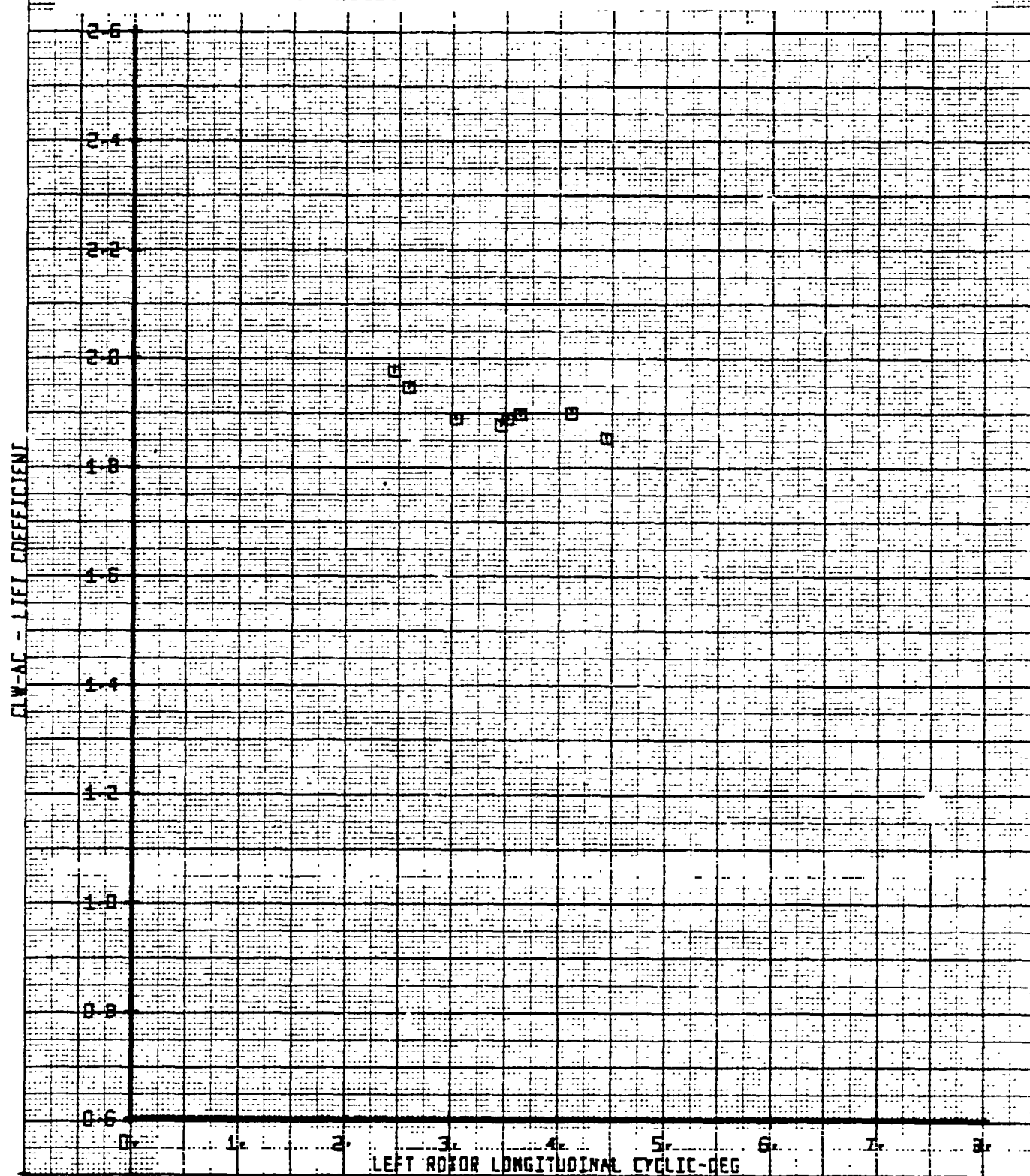
Figure 9-054. Right Rotor Pitching Moment Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 100 Knots.

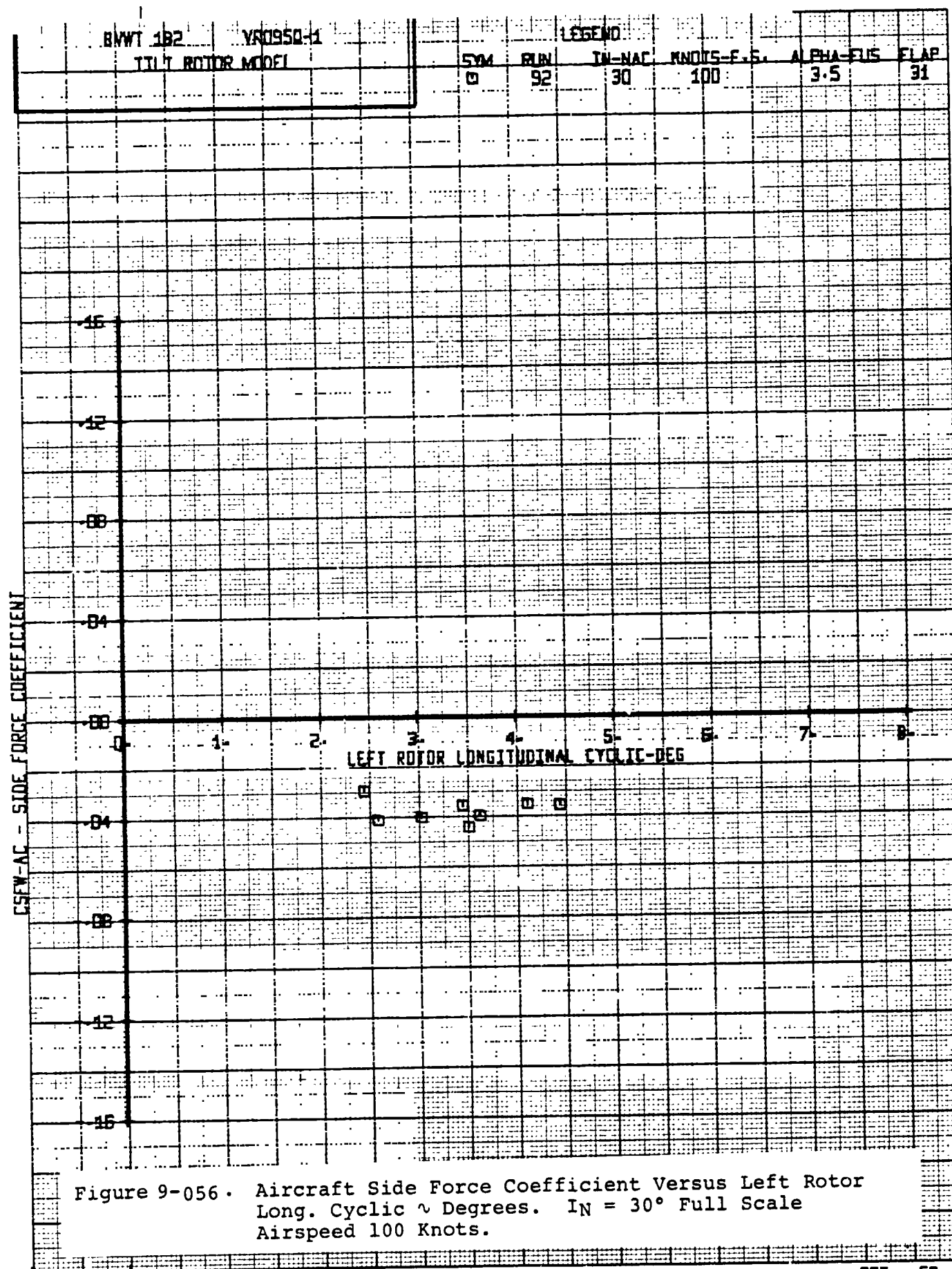
D238-10000-3

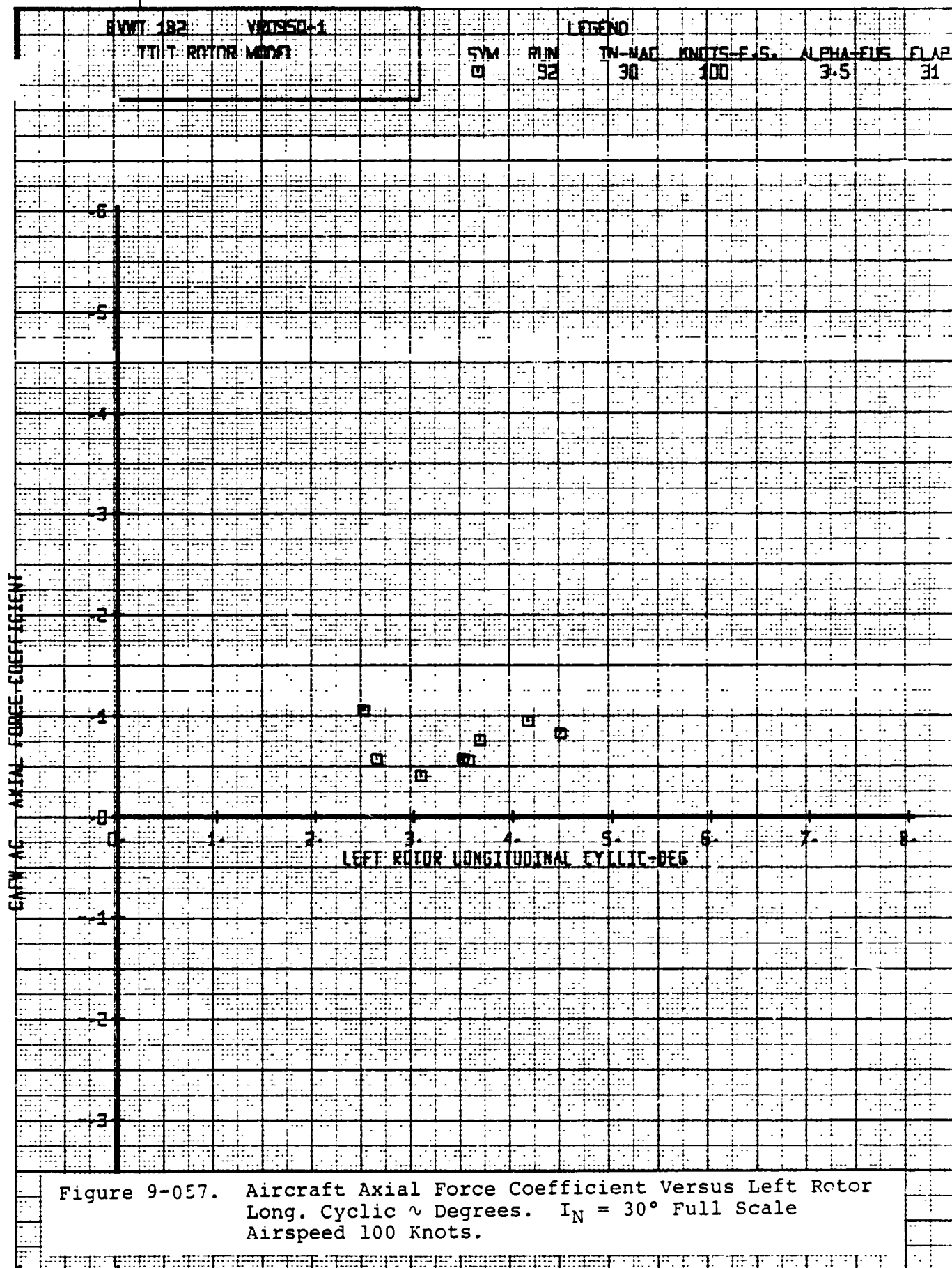
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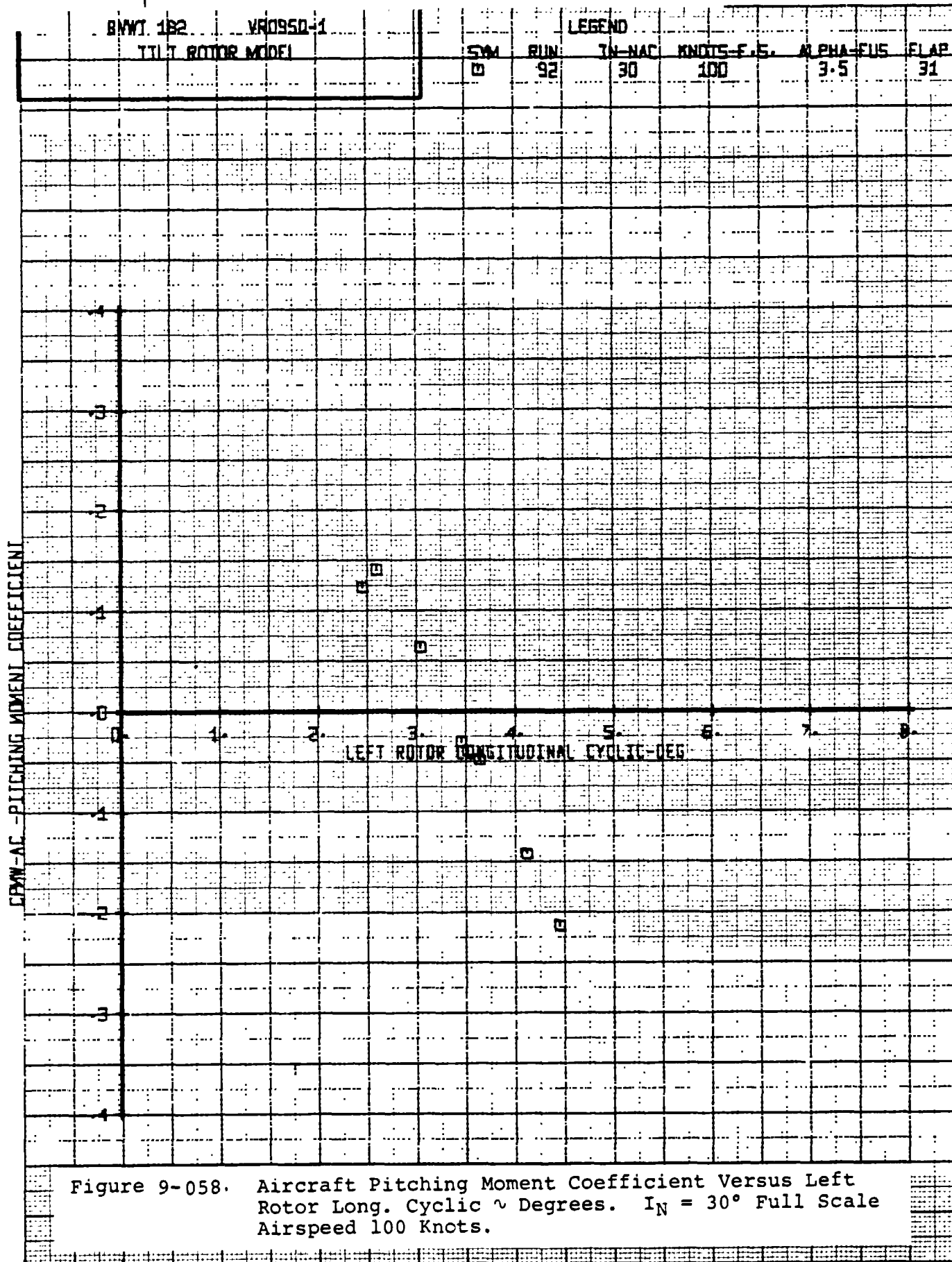
BVWT 182	VR0950-1	LEGEND				
TIT Rotor Model		SYM	RUN	IN-NAC	KNOTS F.F.	ALPHA-FUS
		0	92	30	100	3.5
						FLAP 31

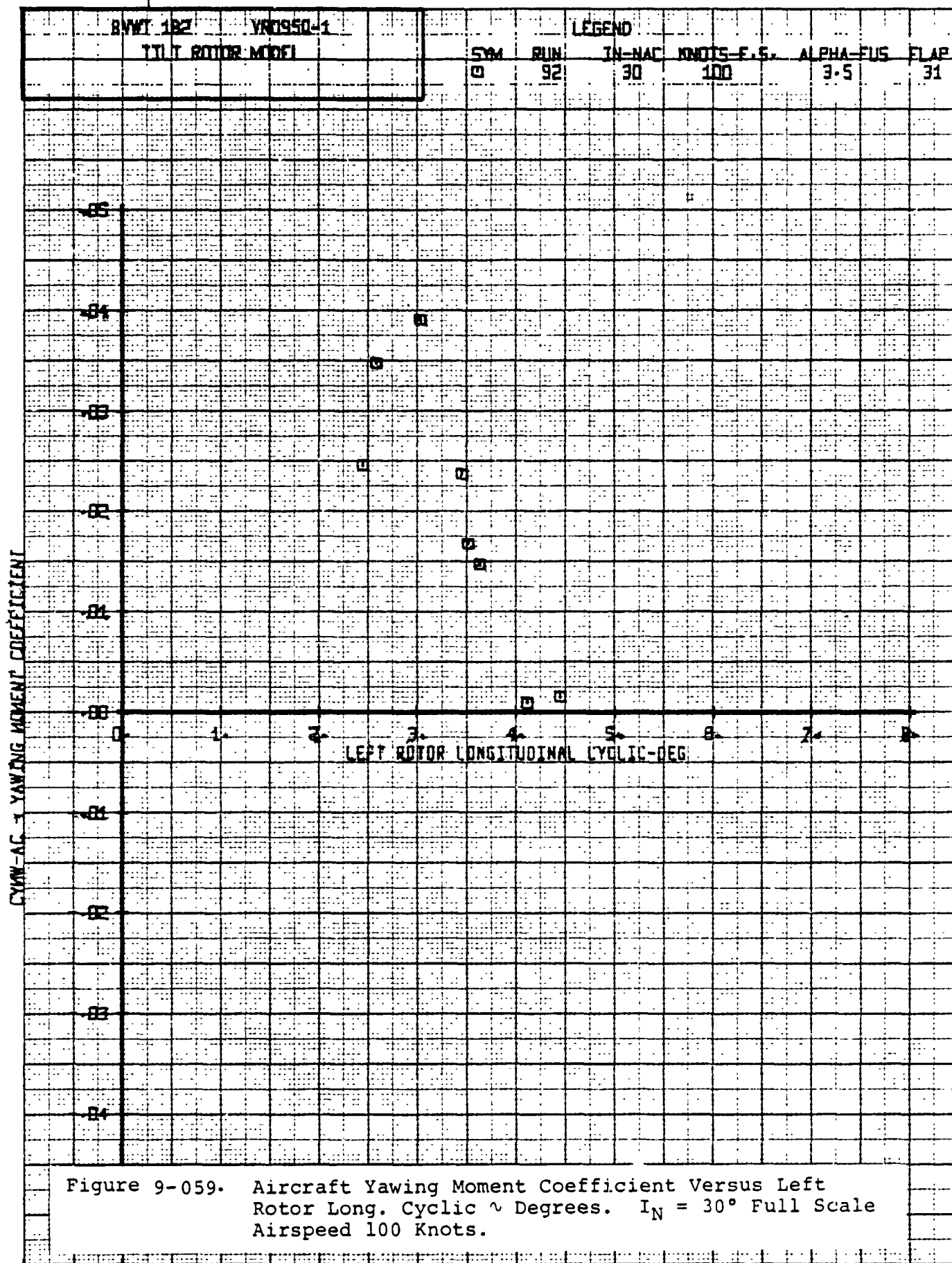
Figure 9-055. Aircraft Lift Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

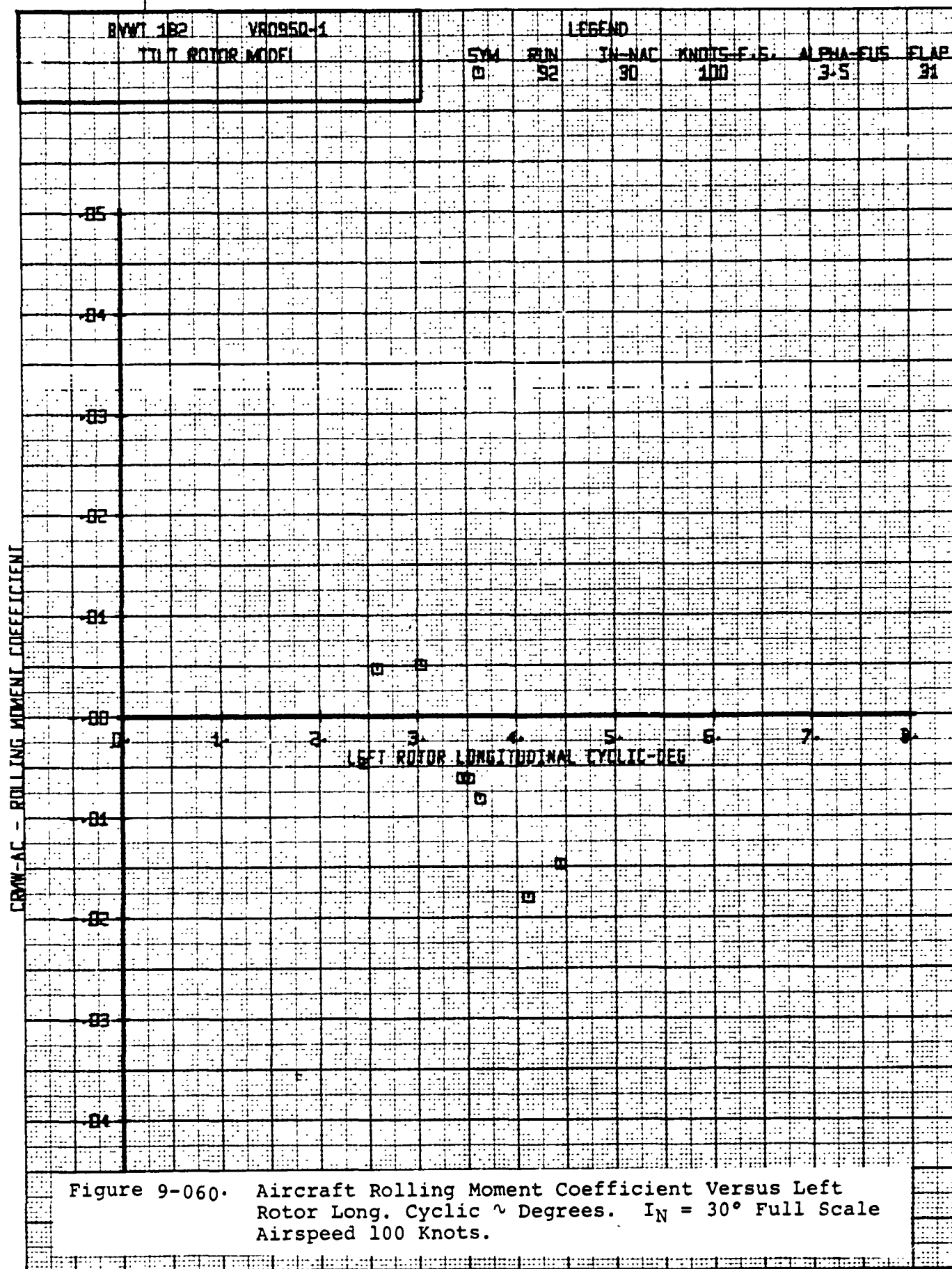


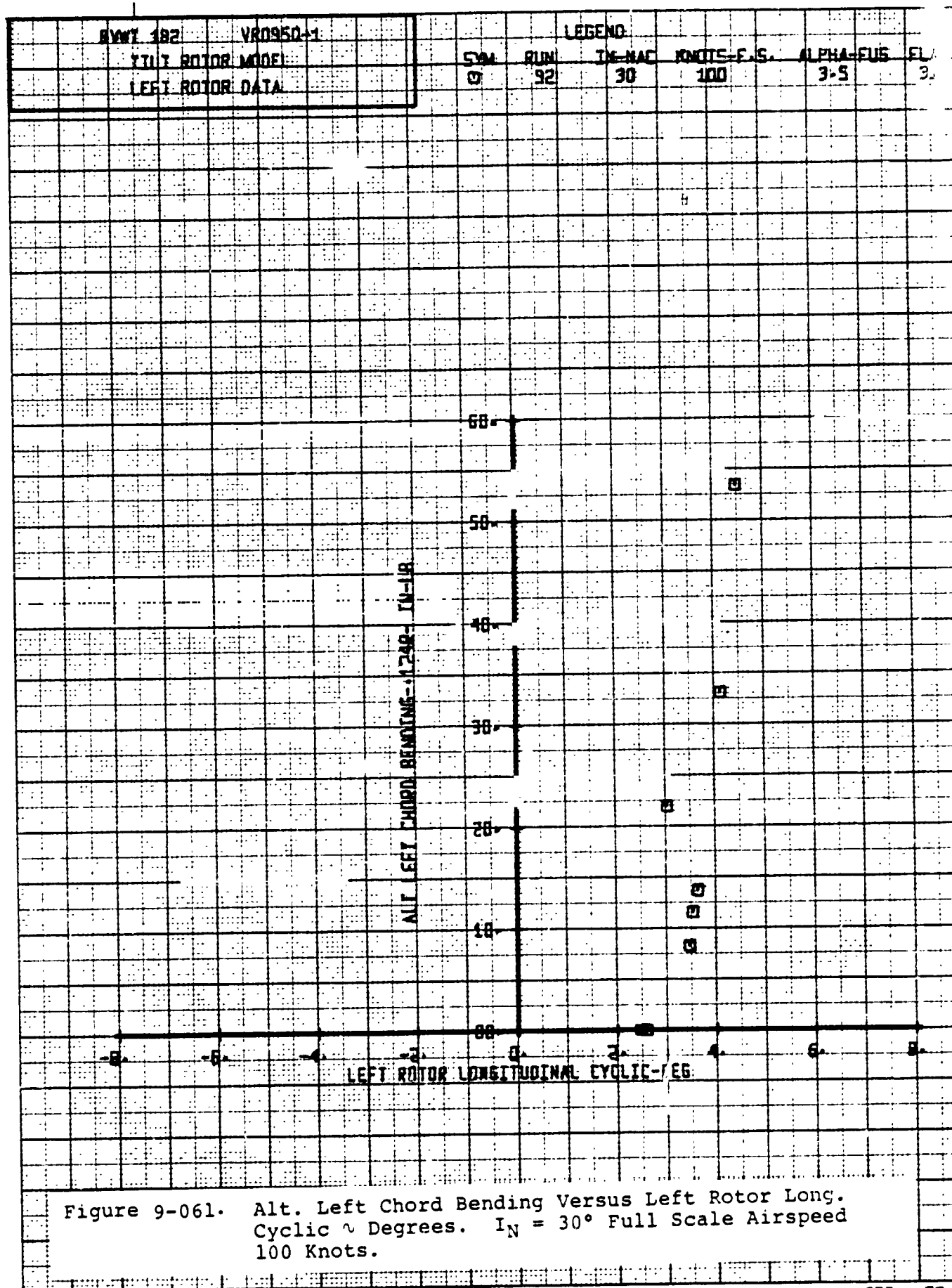


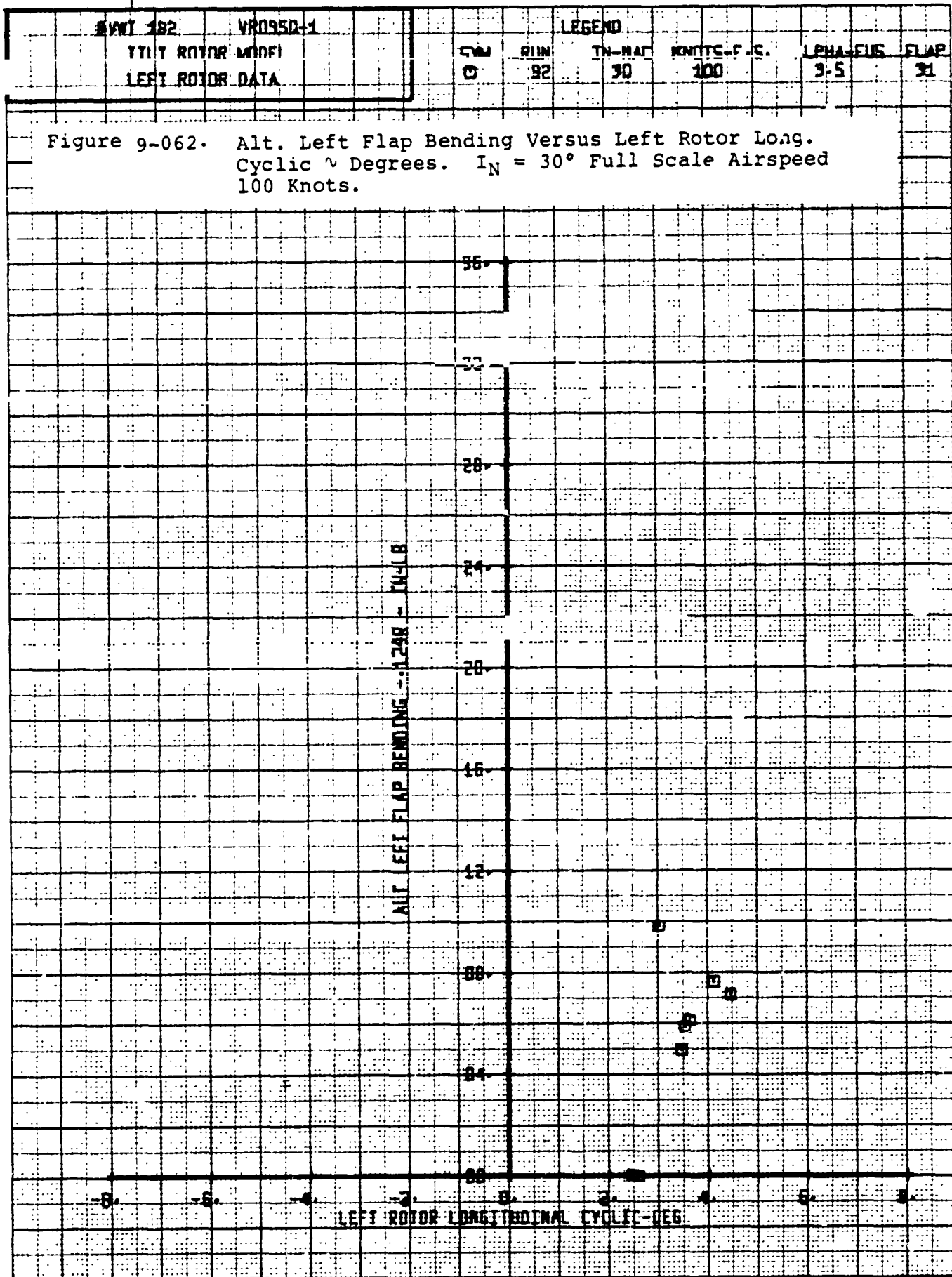






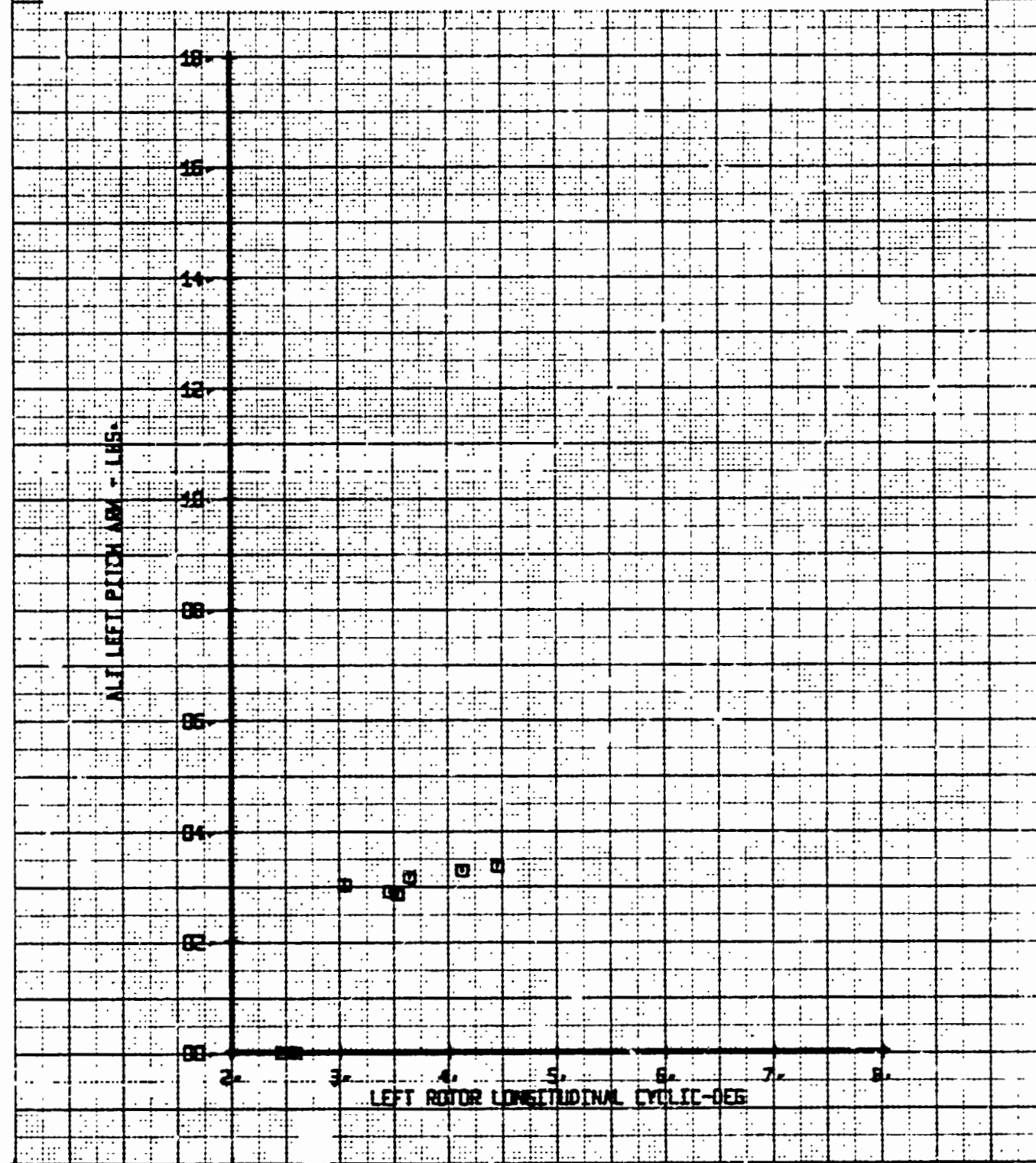


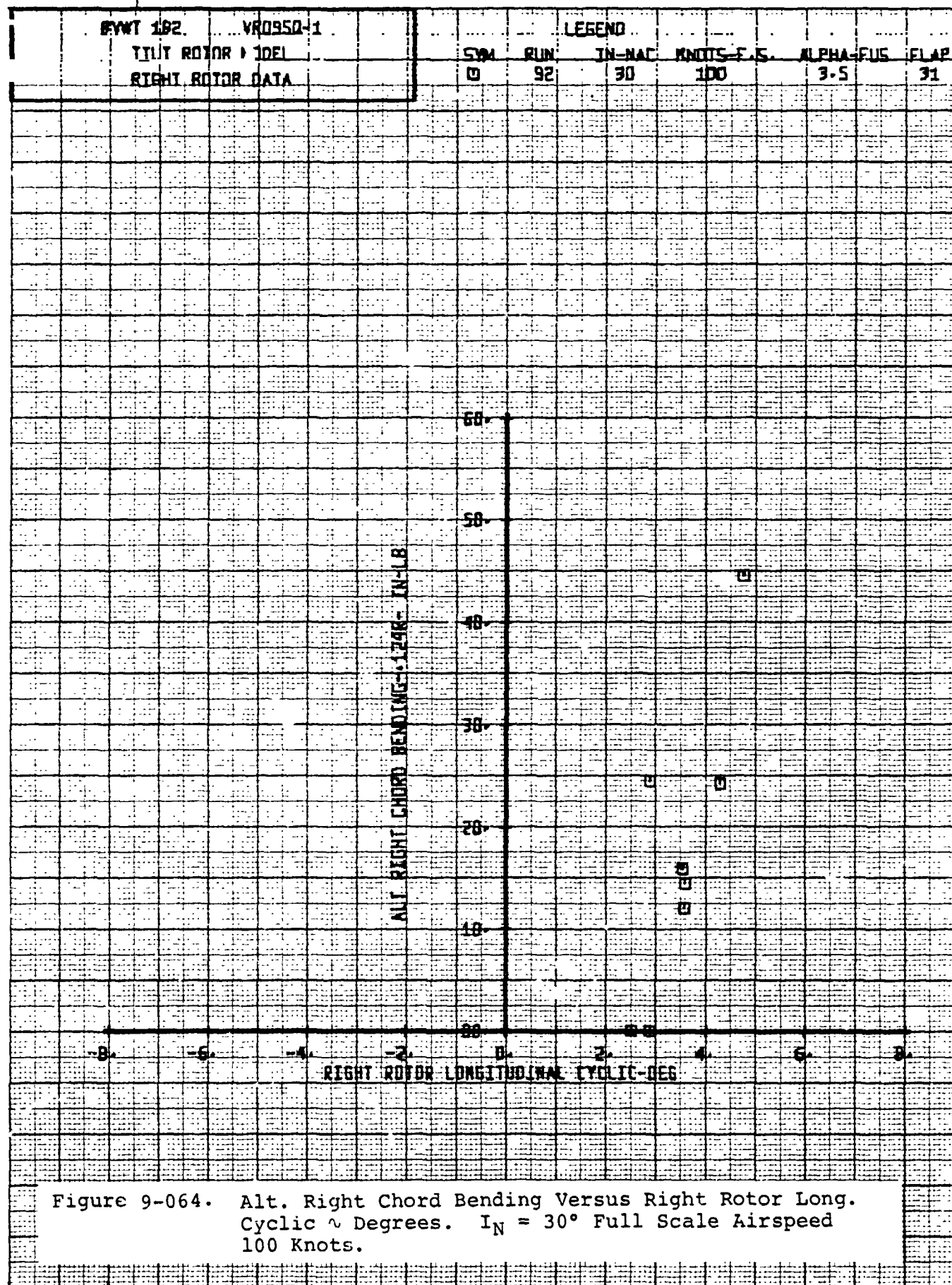




BWWT 182	VR0950-1	SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
TILT ROTOR MODE		0	92	30	100	3.5	31
LEFT ROTOR DATA							

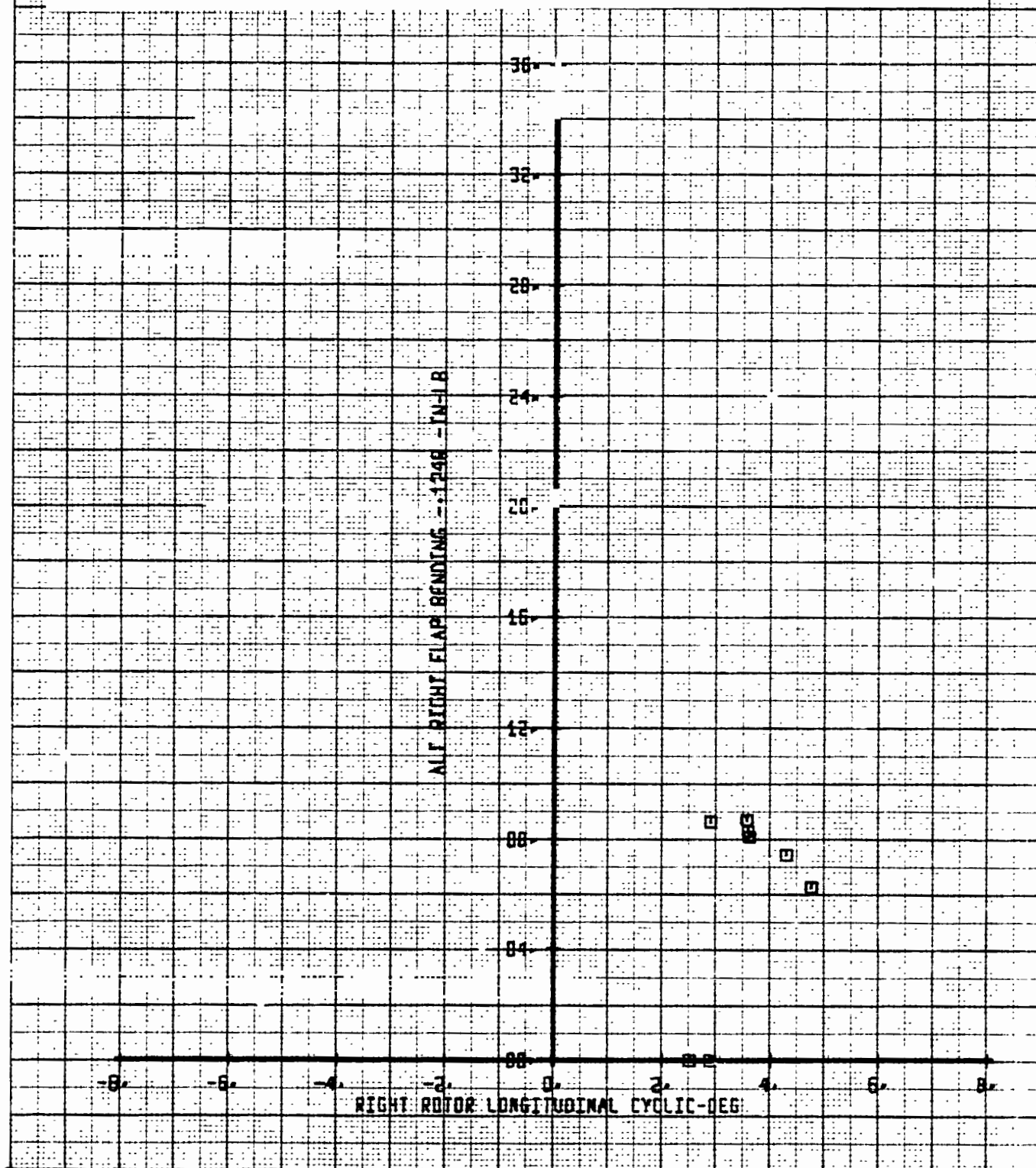
Figure 9-063. Alt. Left Pitch Link Load Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.





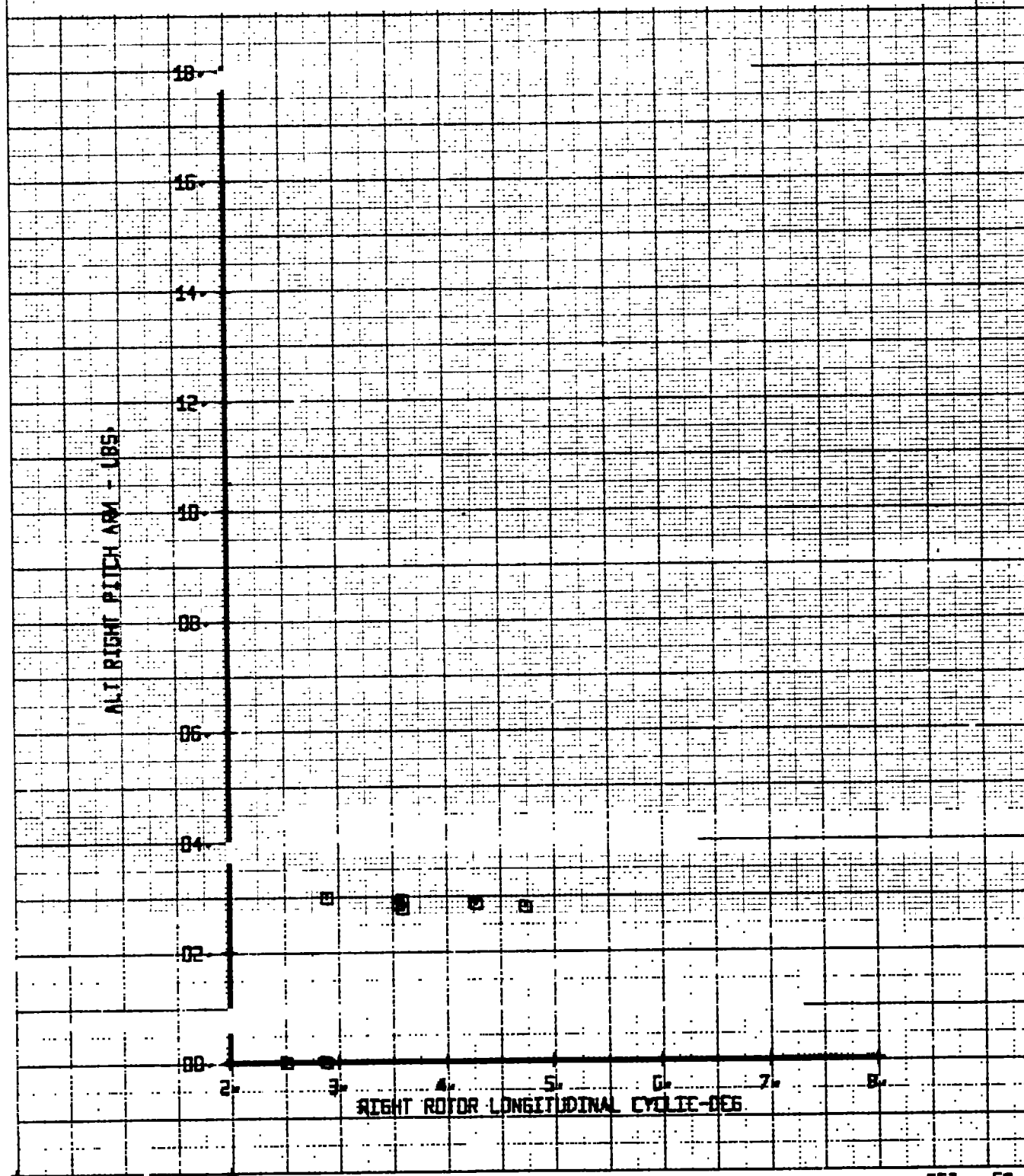
BVWT 182	YR0950-1	LEGEND				
YR0950-1	RIGHT ROTOR DATA	SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
		0	92	30	100	3-5
						FLAP
						31

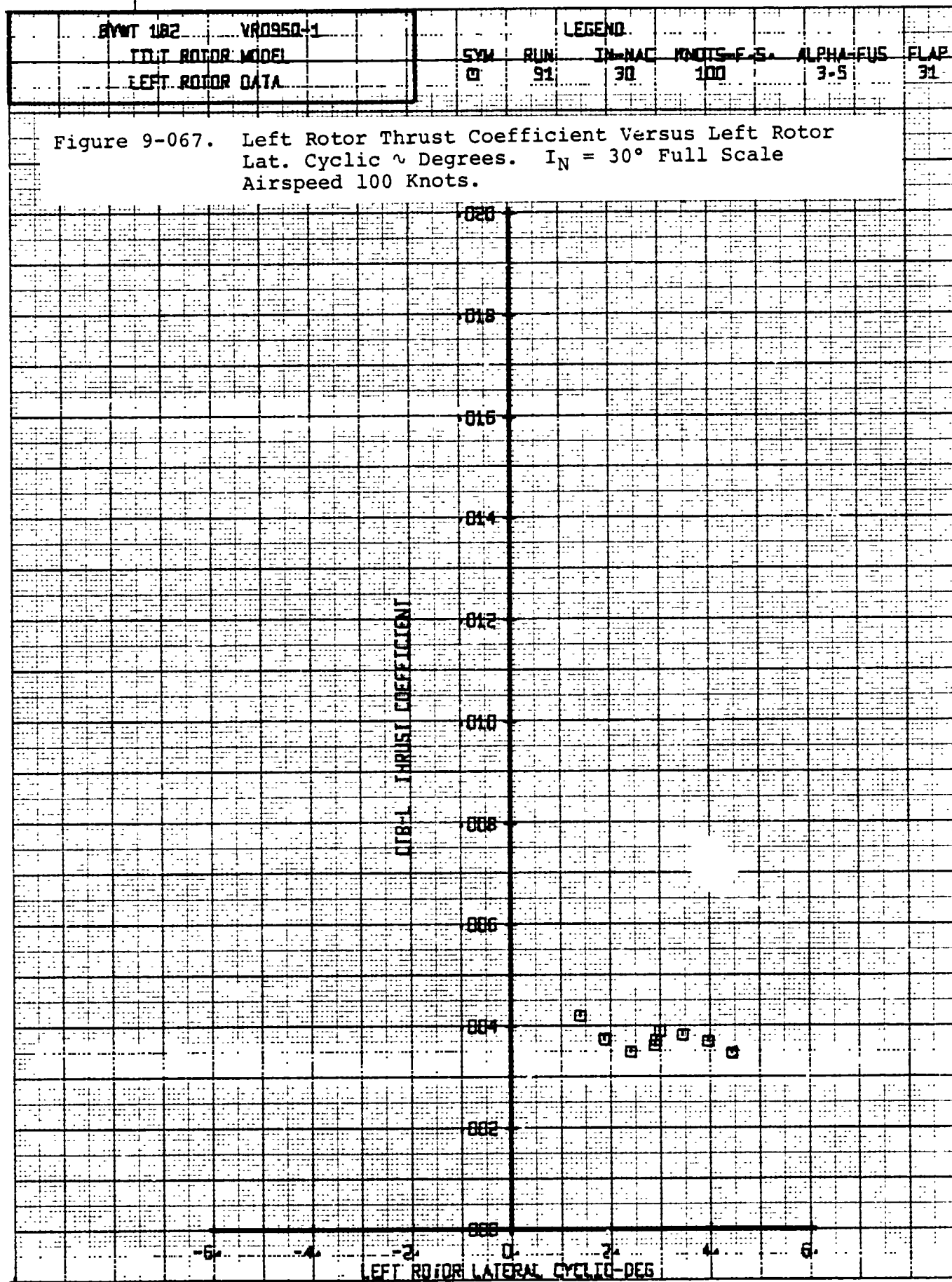
Figure 9-065. Alt. Right Flap Bending Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



B/WT 182	VR0950-1	LEGEND						
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-POS	FLAP	
RIGHT ROTOR DATA		□	92	30	100	3.5	31	

Figure 9-066. Alt. Right Pitch Link Load Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.





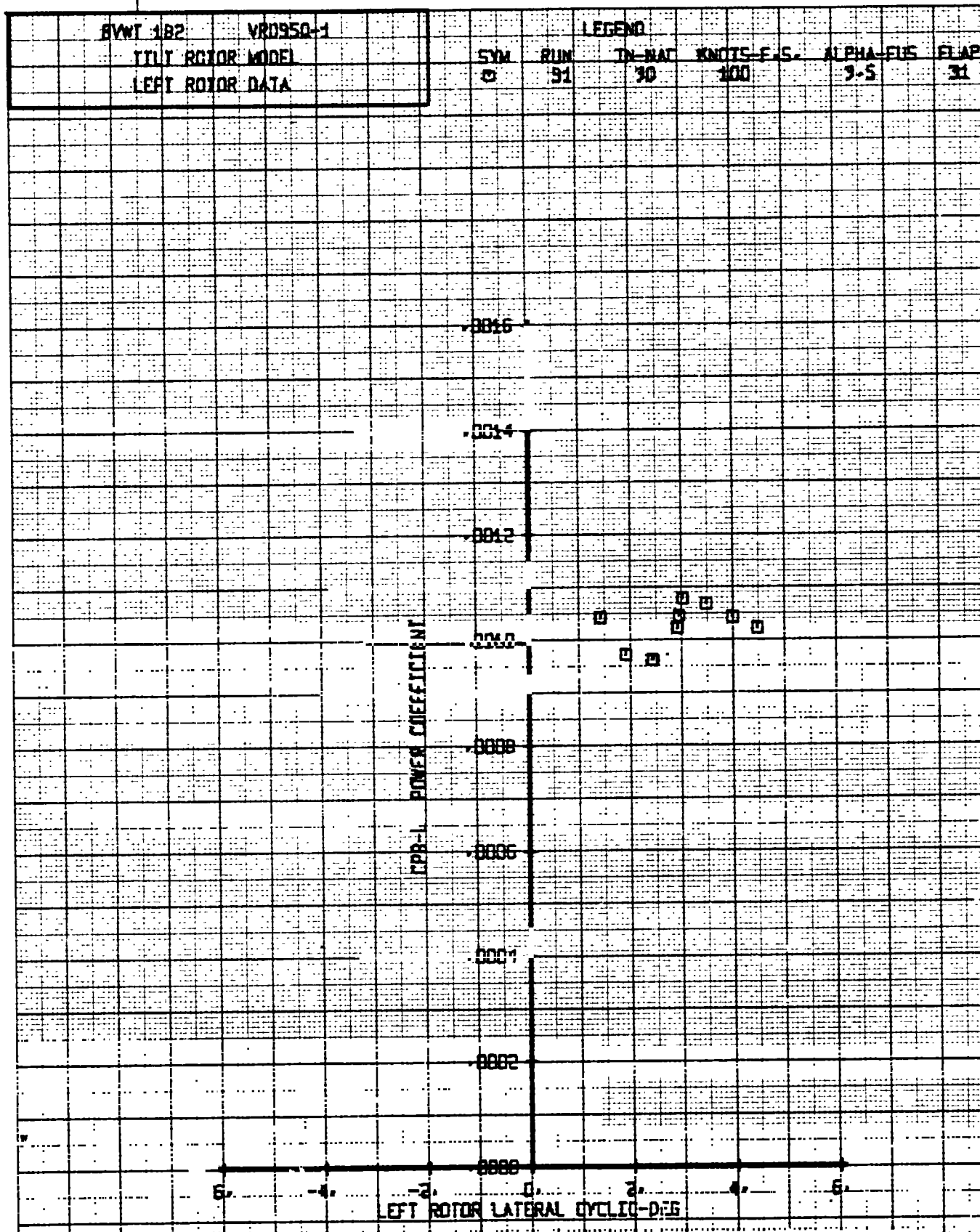
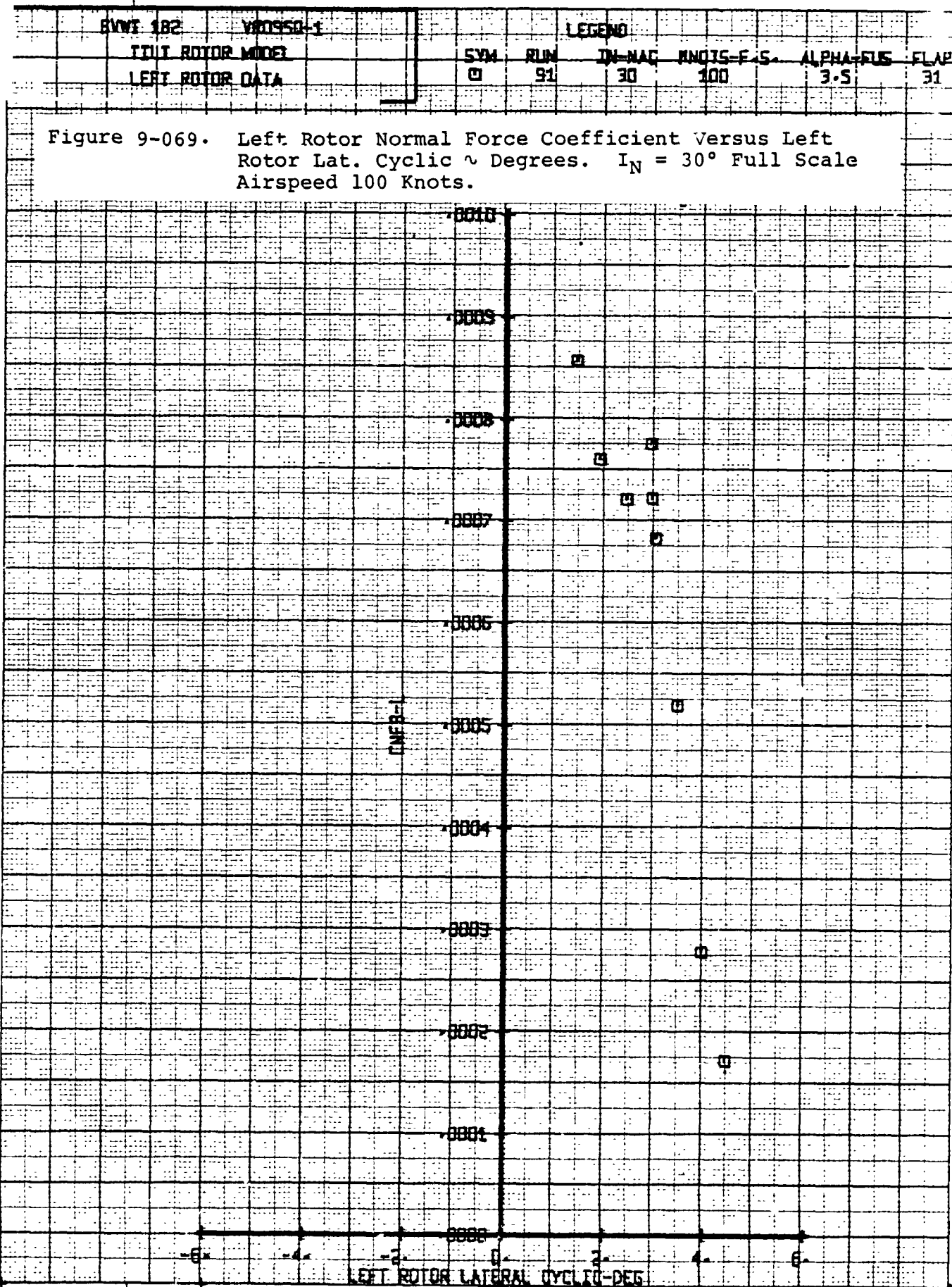
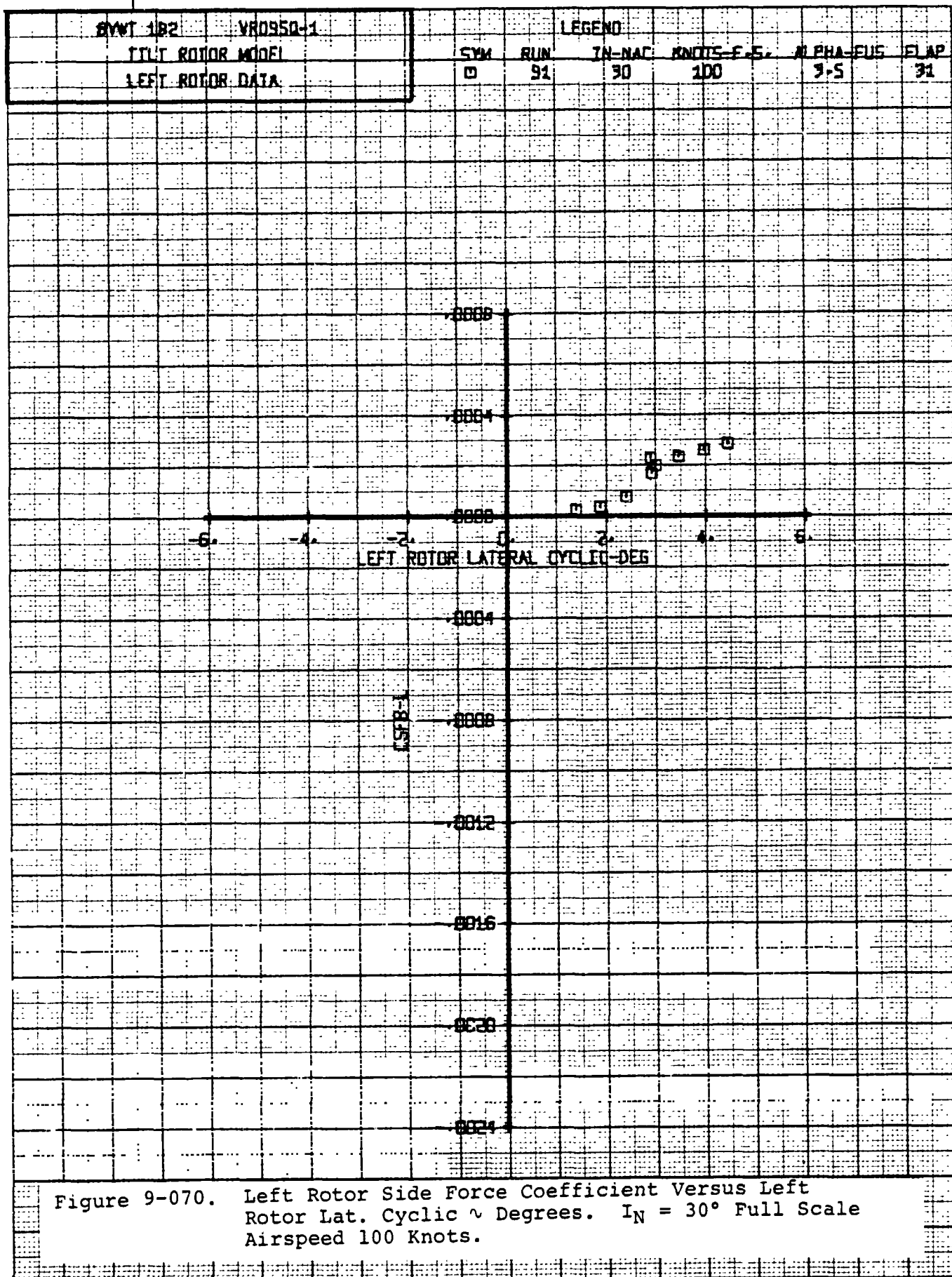


Figure 9-068. Left Rotor Power Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.





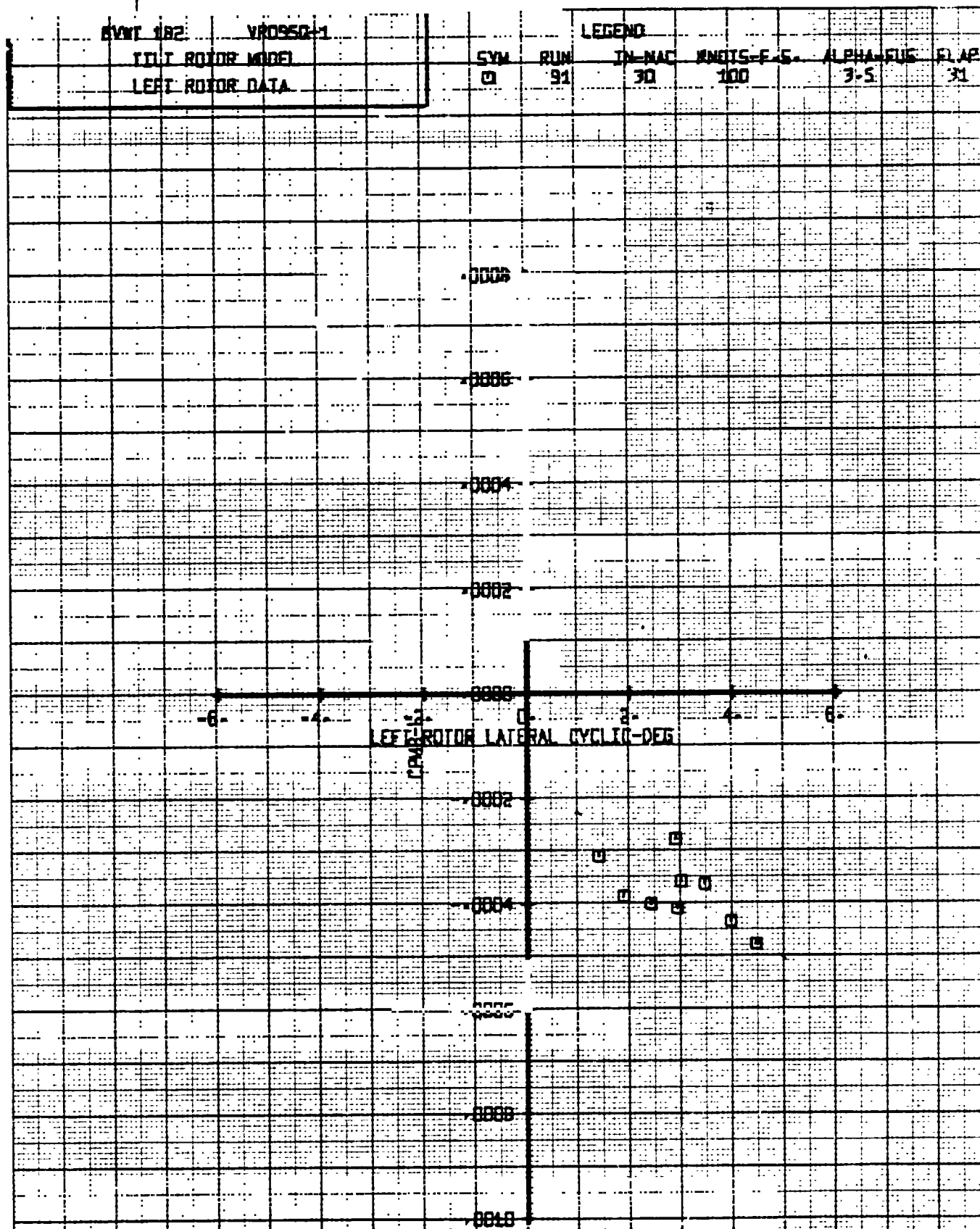


Figure 9-071. Left Rotor Pitching Moment Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

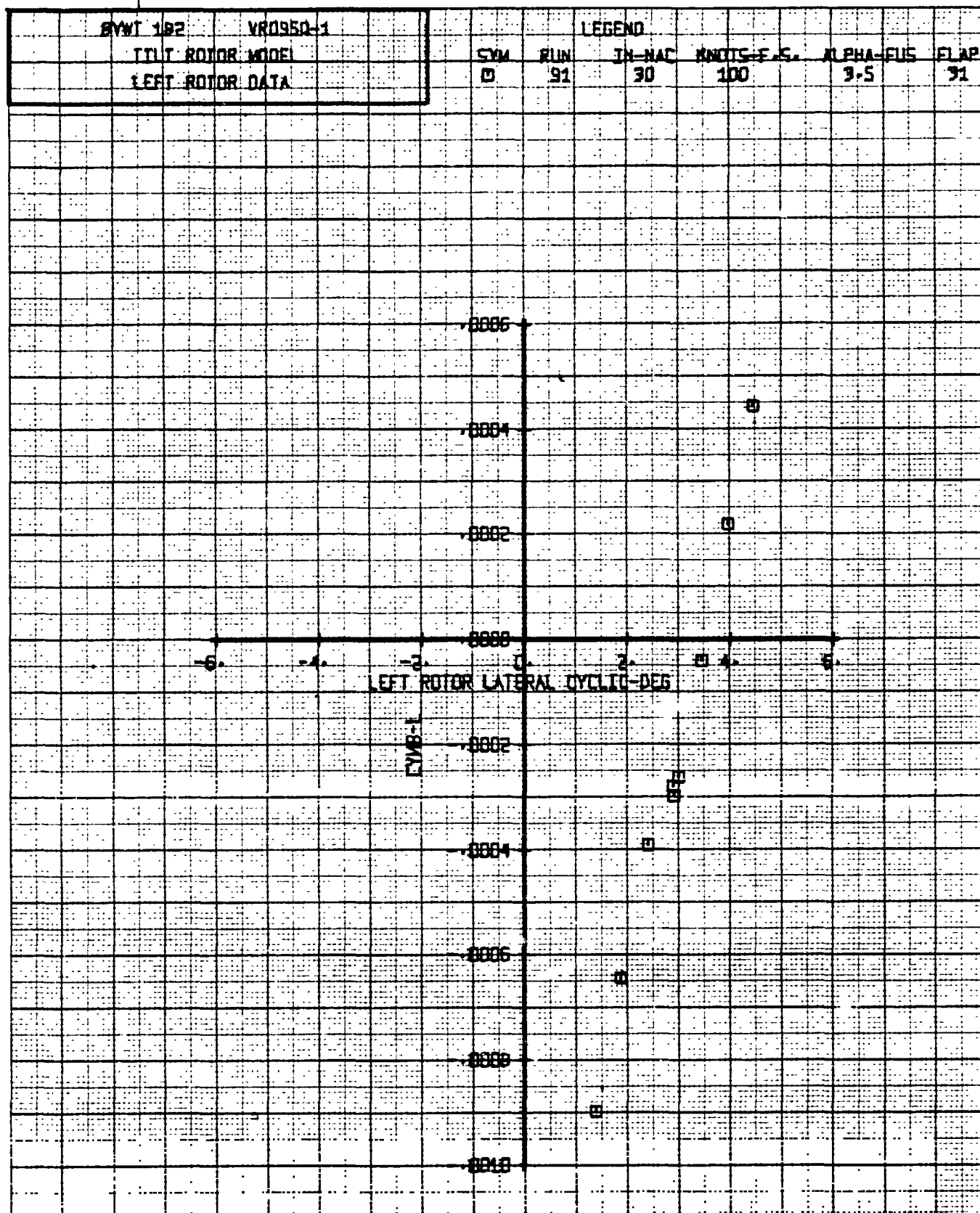
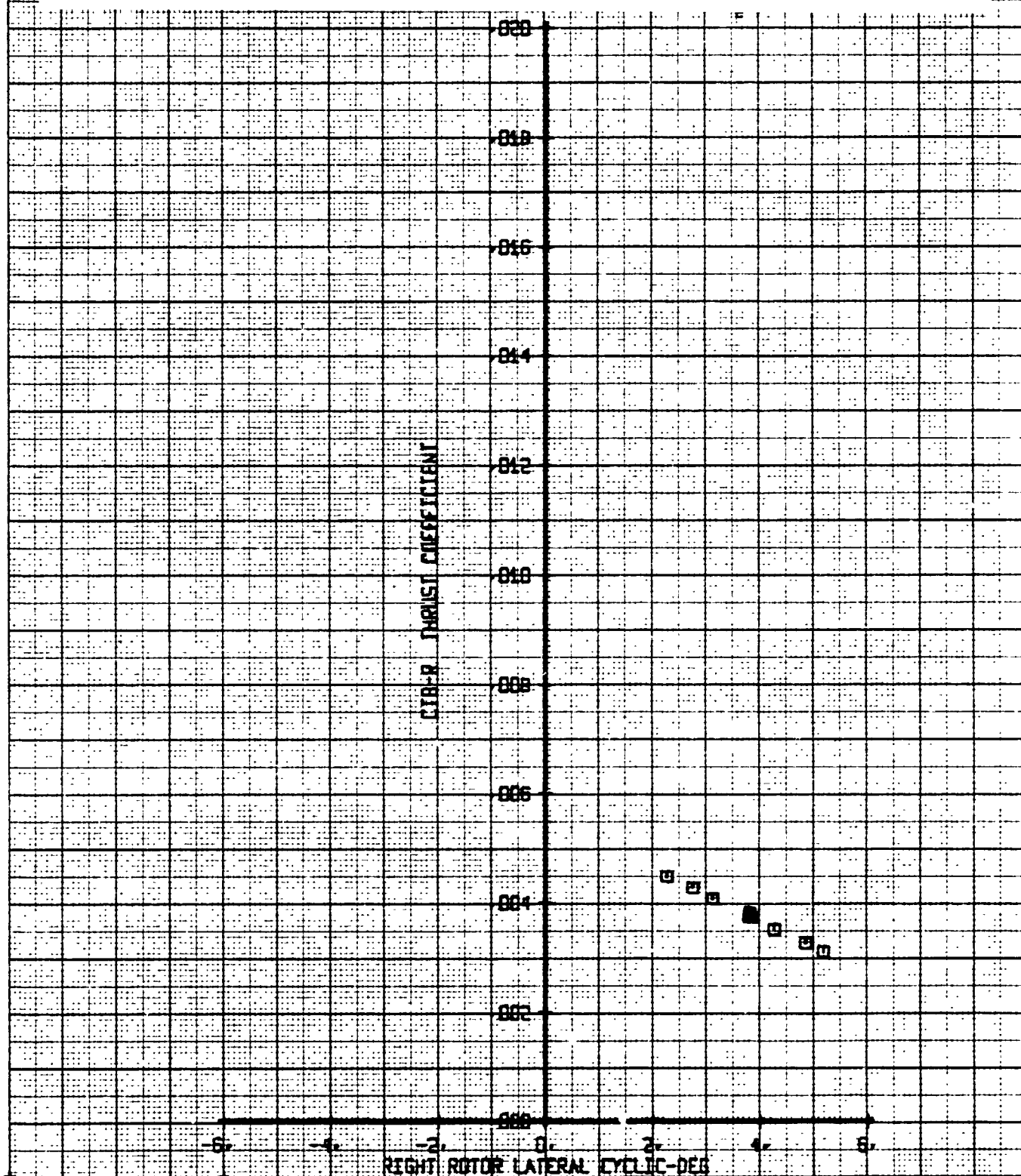


Figure 9-072. Left Rotor Yawing Moment Coefficient Versus Left Rotor Lat. Cyclic \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

BVWT 182		VR0950-1		LEGEND							
TILT ROTOR MODE				SYM	RUN	IN-MAG	KNOTS-F.S.	ALPHA-FUS	FLAP		
RIGHT ROTOR DATA				0	91	30	100	3-5	31		

Figure 9-073. Right Rotor Thrust Coefficient Versus Right Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



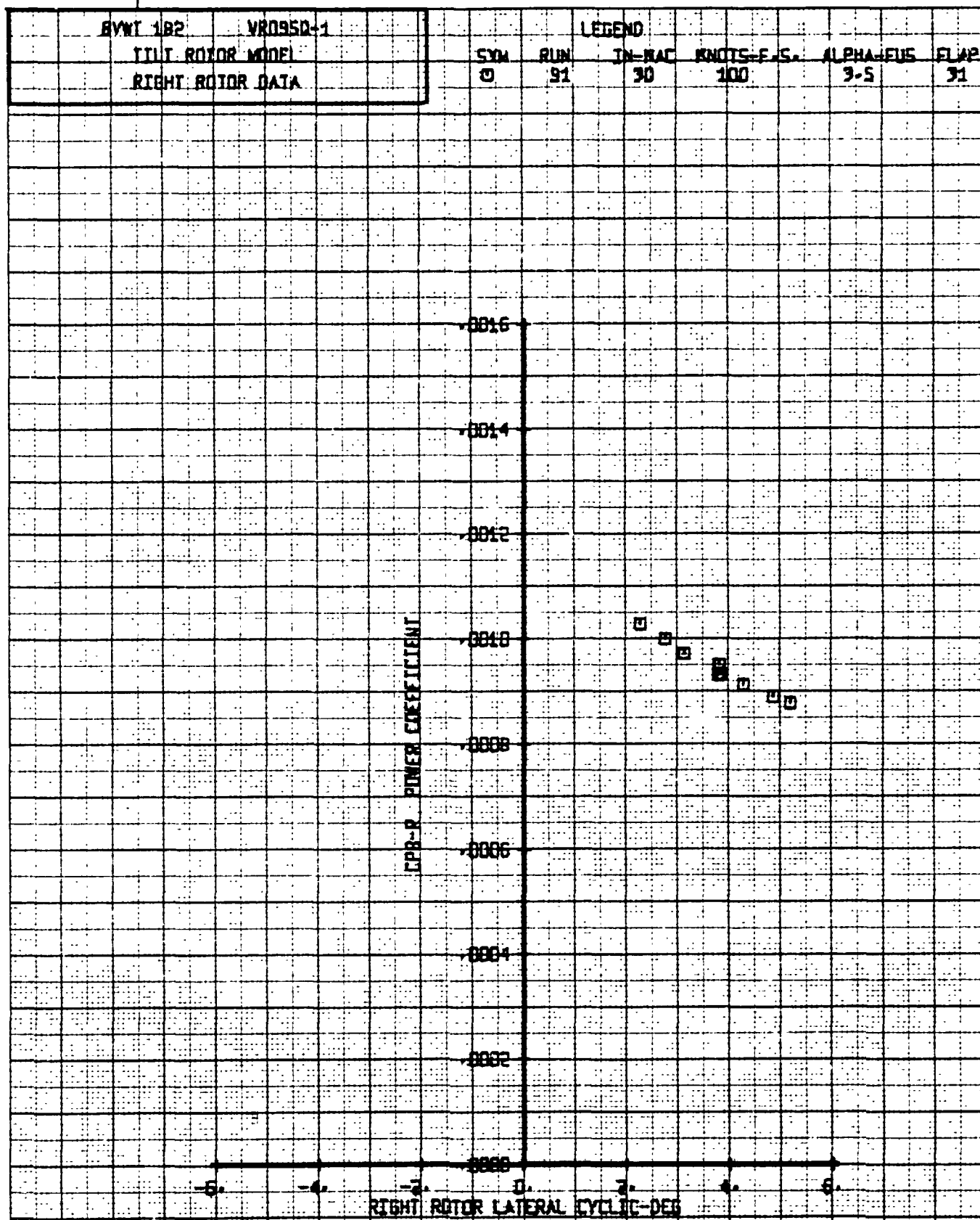
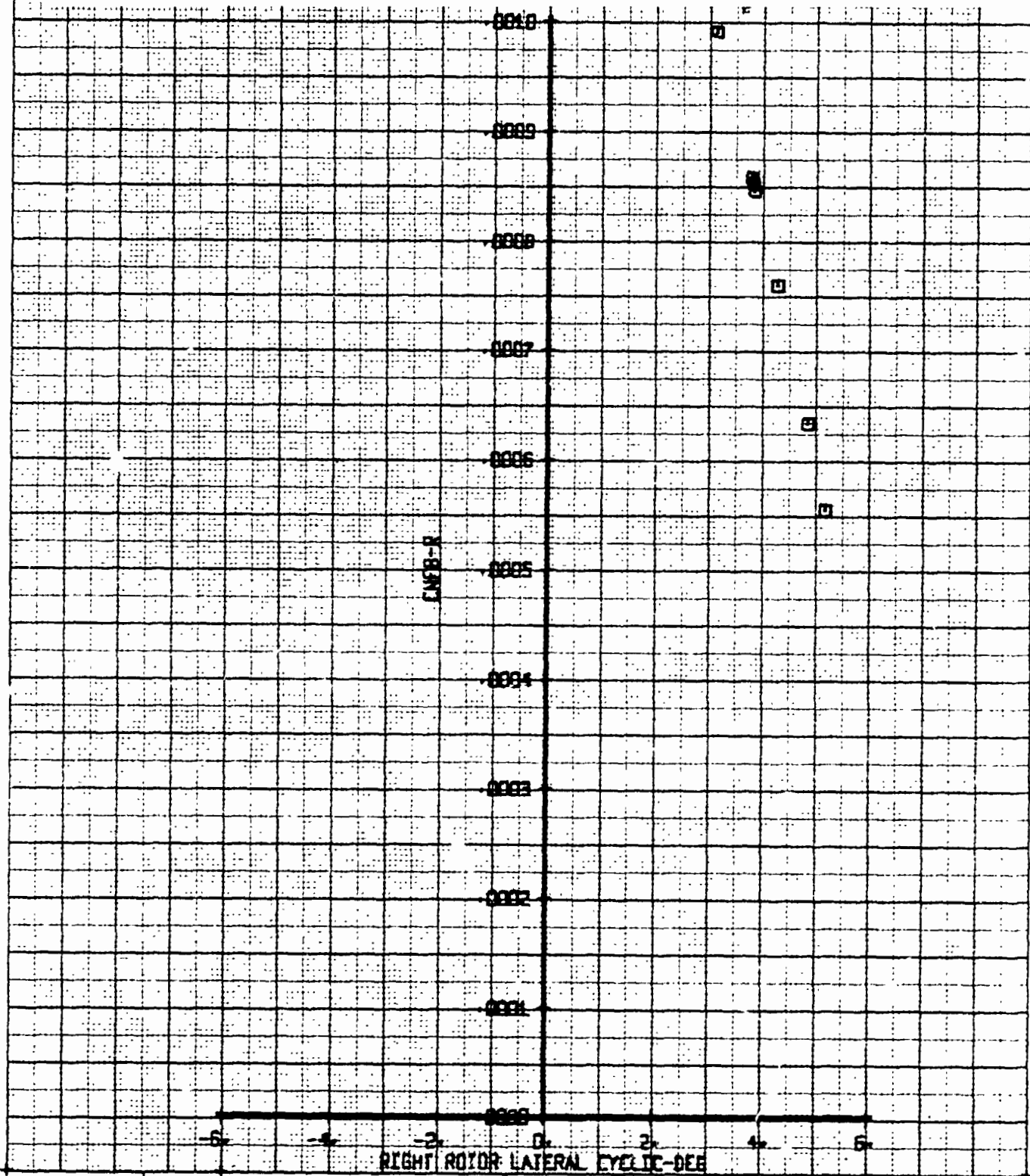


Figure 9-074. Right Rotor Power Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 100 Knots.

BWV 182		YR0950-1		LEGEND			
TILT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-F.S.
RIGHT ROTOR DATA				□	91	30	100
							ALPHA-FUS
							3.5
							CLAP
							31

Figure 9-075. Right Rotor Normal Force Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



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Refer to Section 3.0

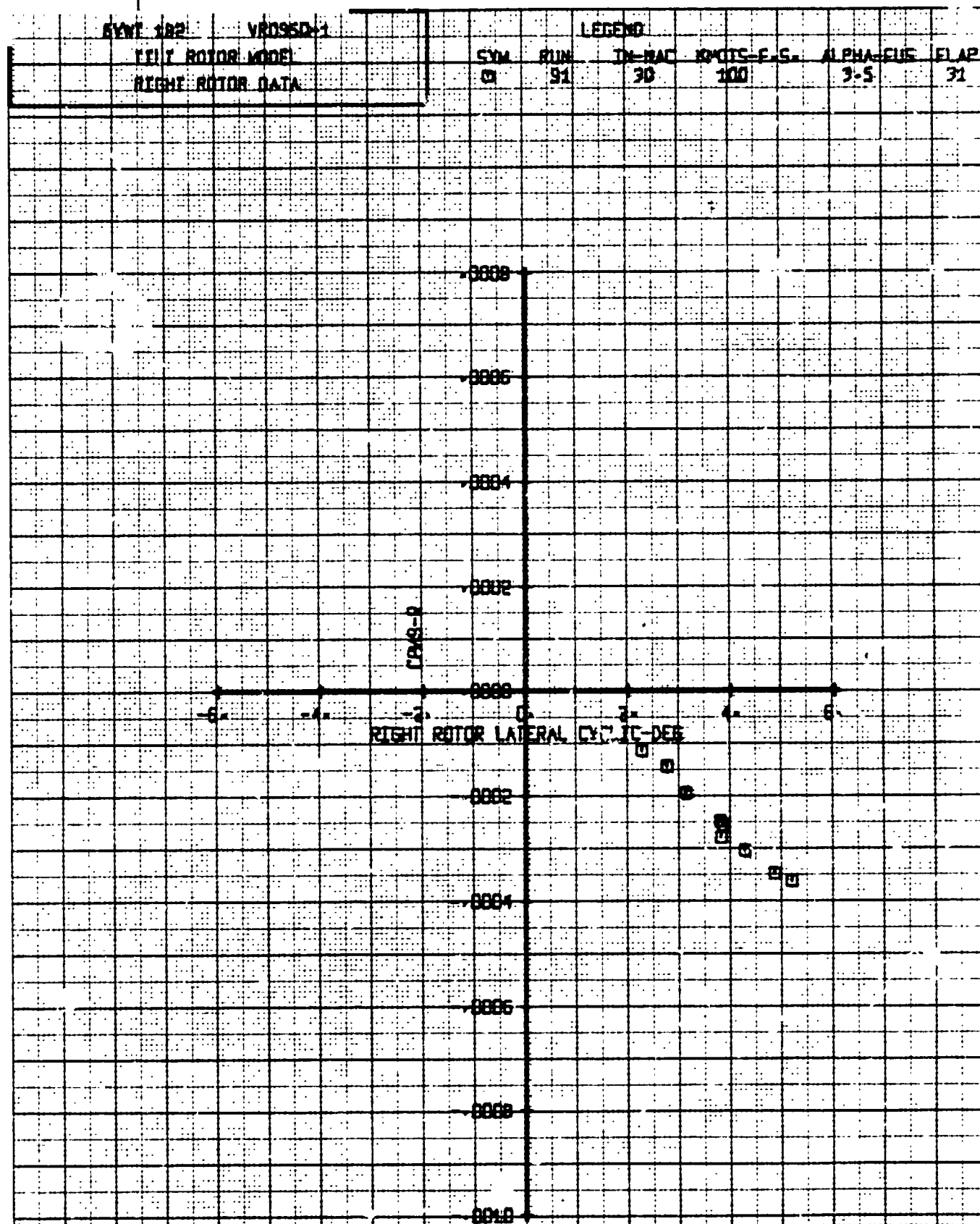


Figure 9-076. Right Rotor Pitching Moment Coefficient Versus Right Rotor Lat. Cyclic \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

Data Deleted
Refer to Section 3.0

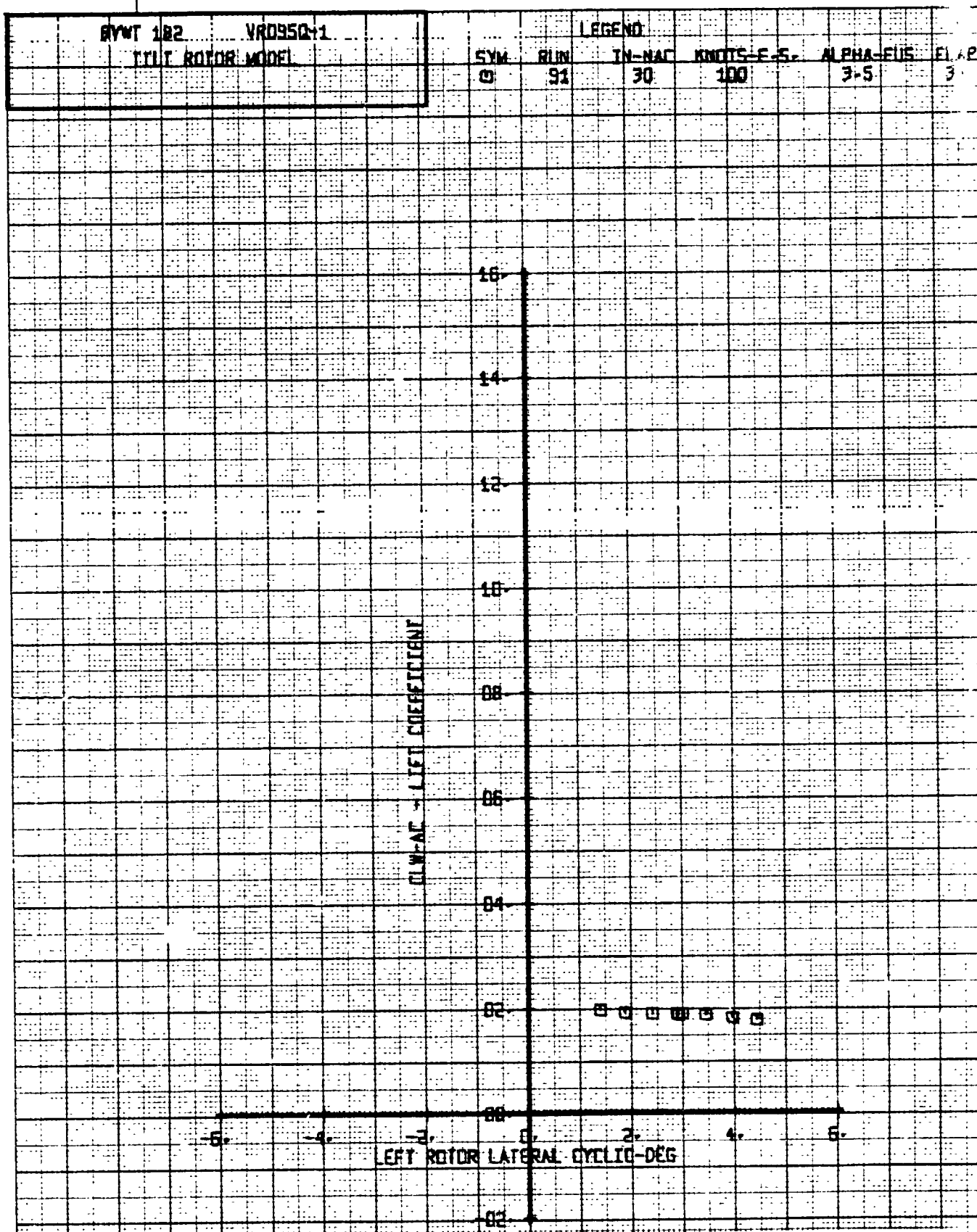
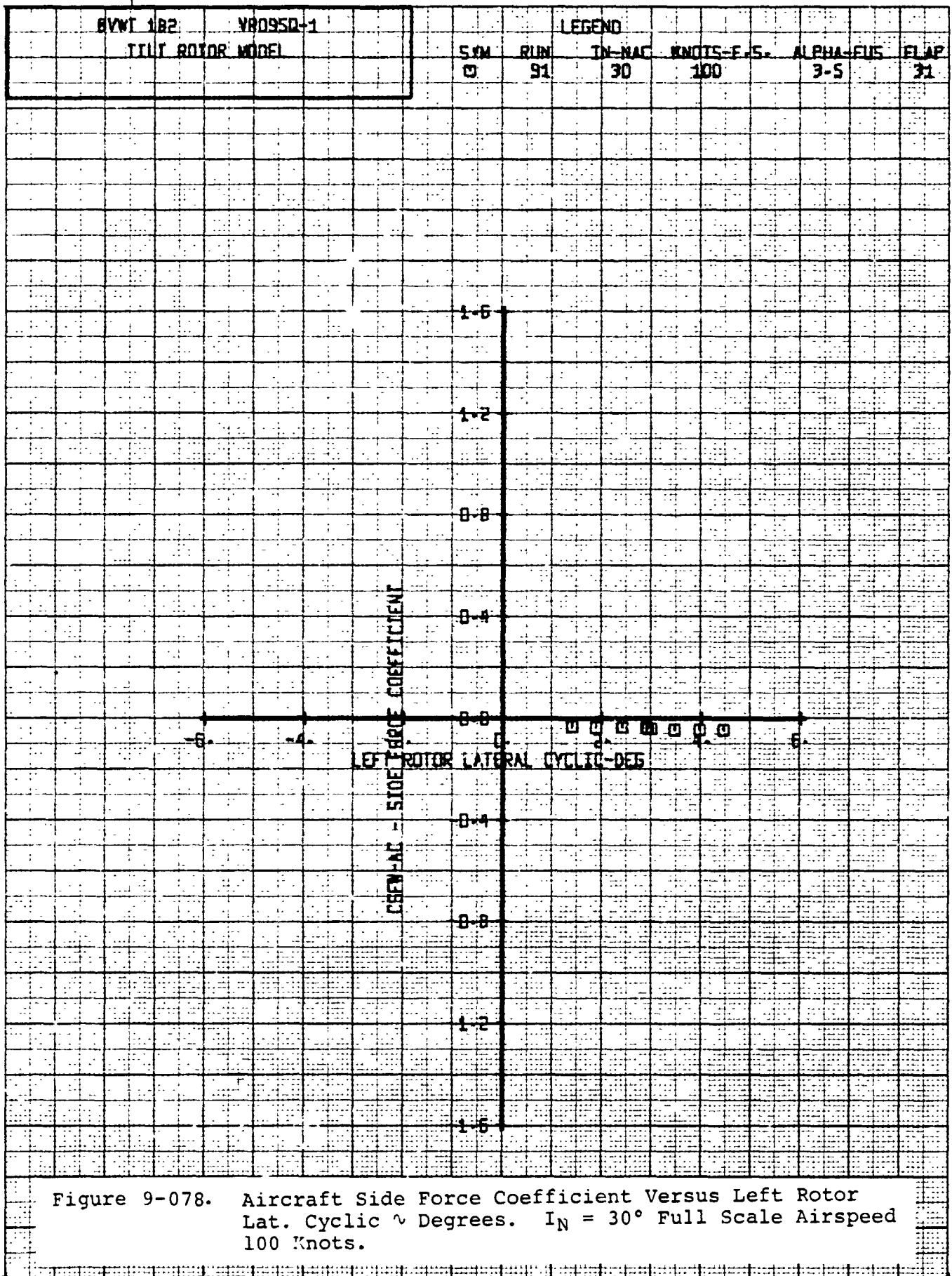


Figure 9-077. Aircraft Lift Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



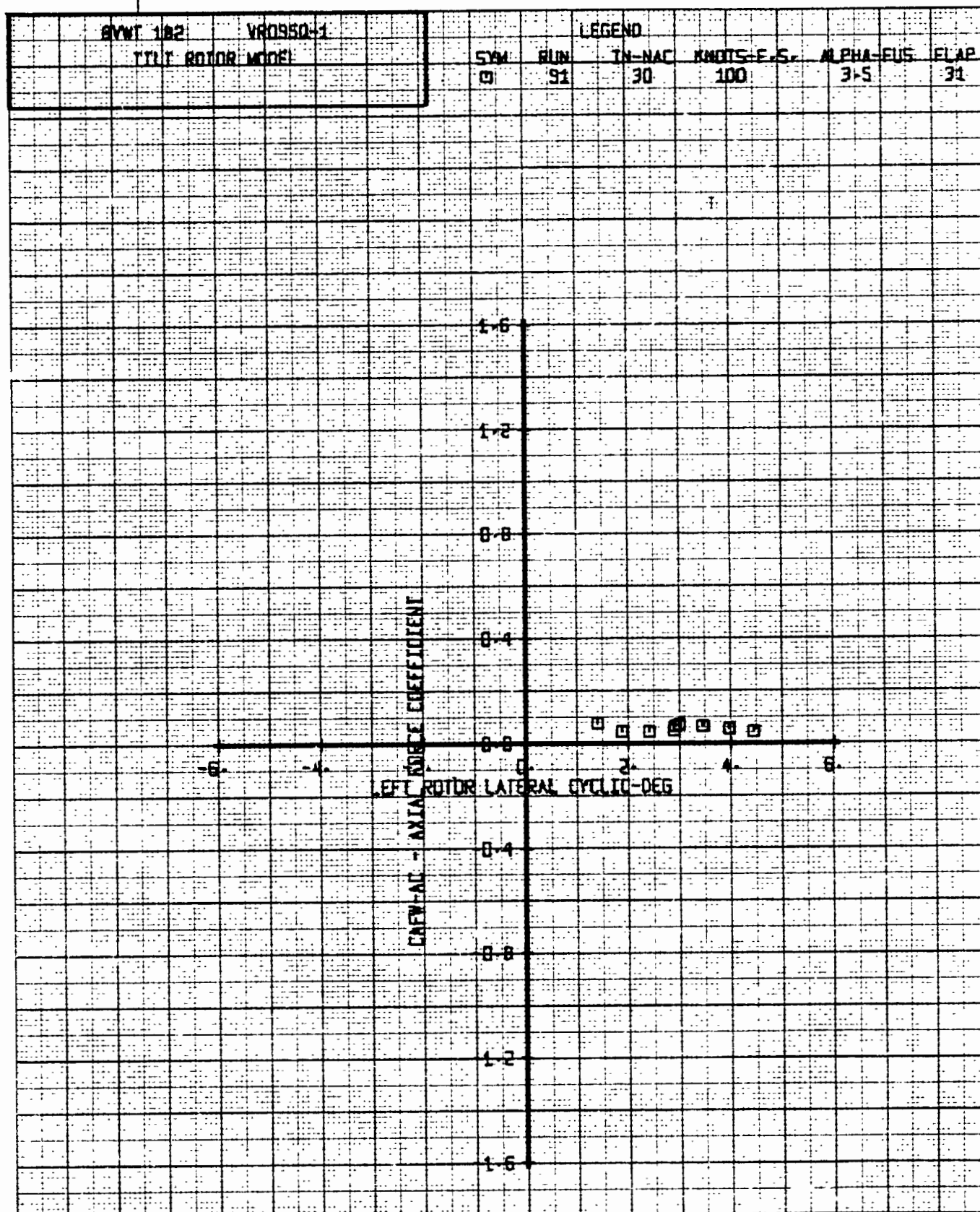
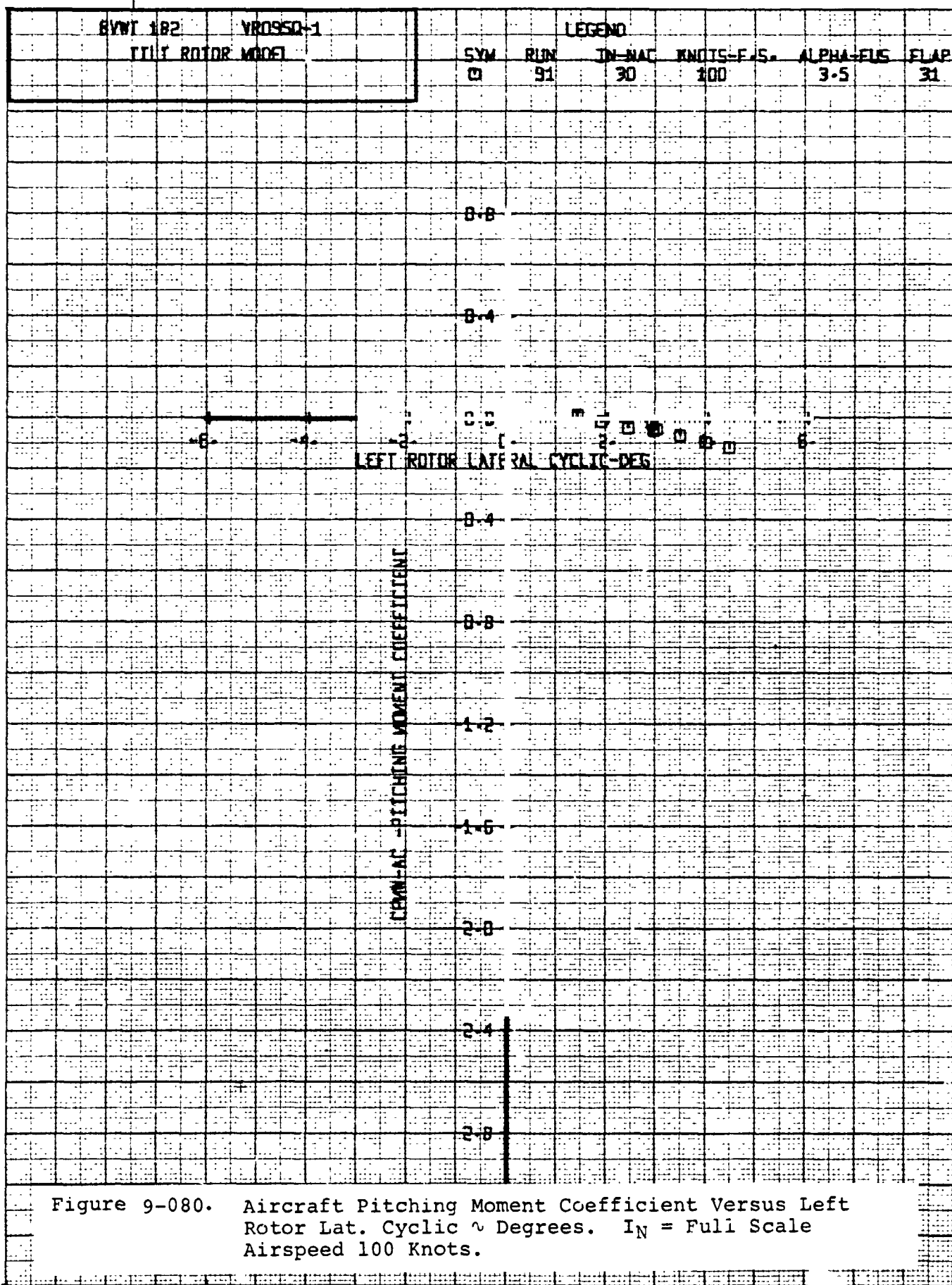


Figure 9-079. Aircraft Axial Force Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



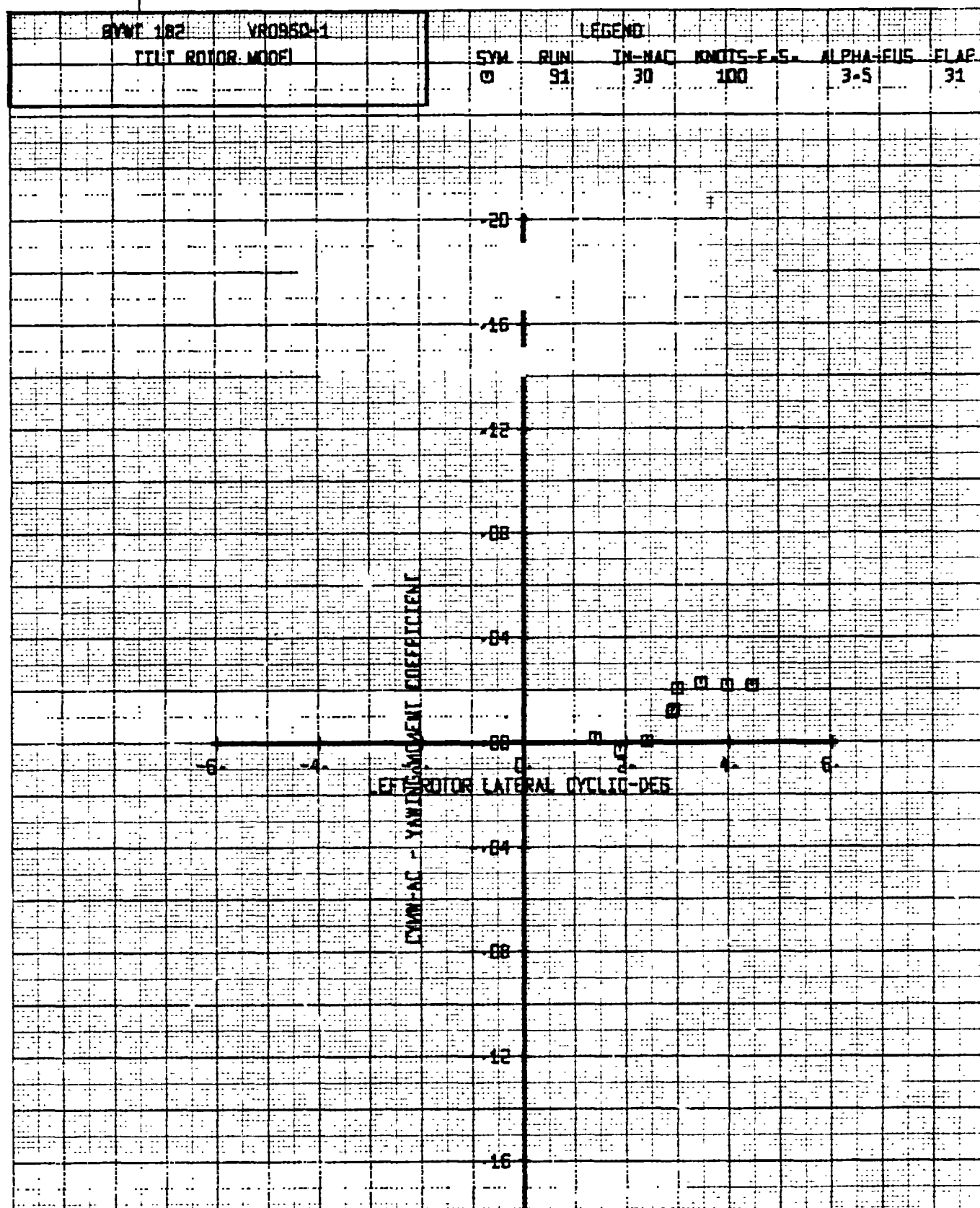
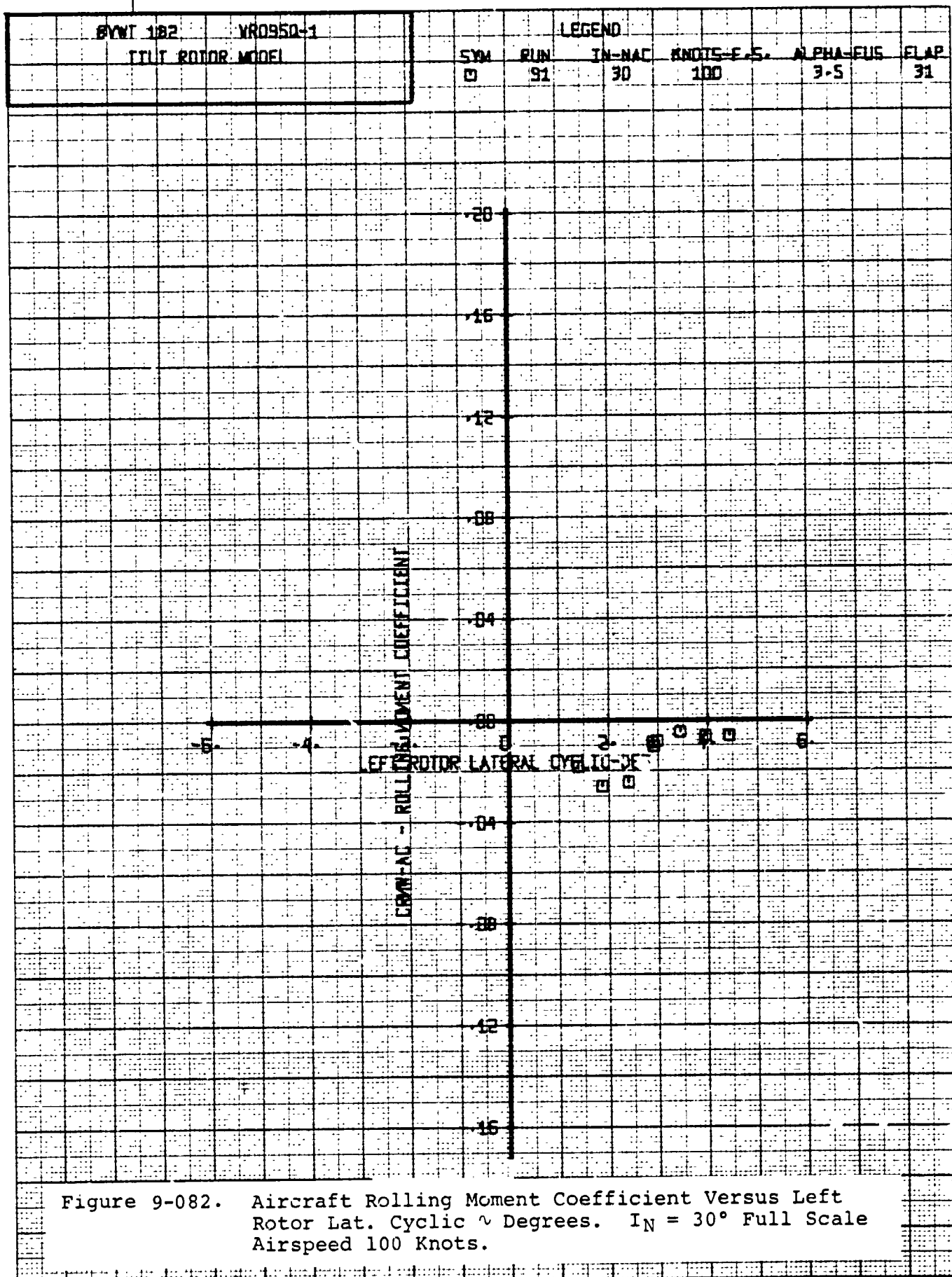


Figure 9-081. Aircraft Yawing Moment Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



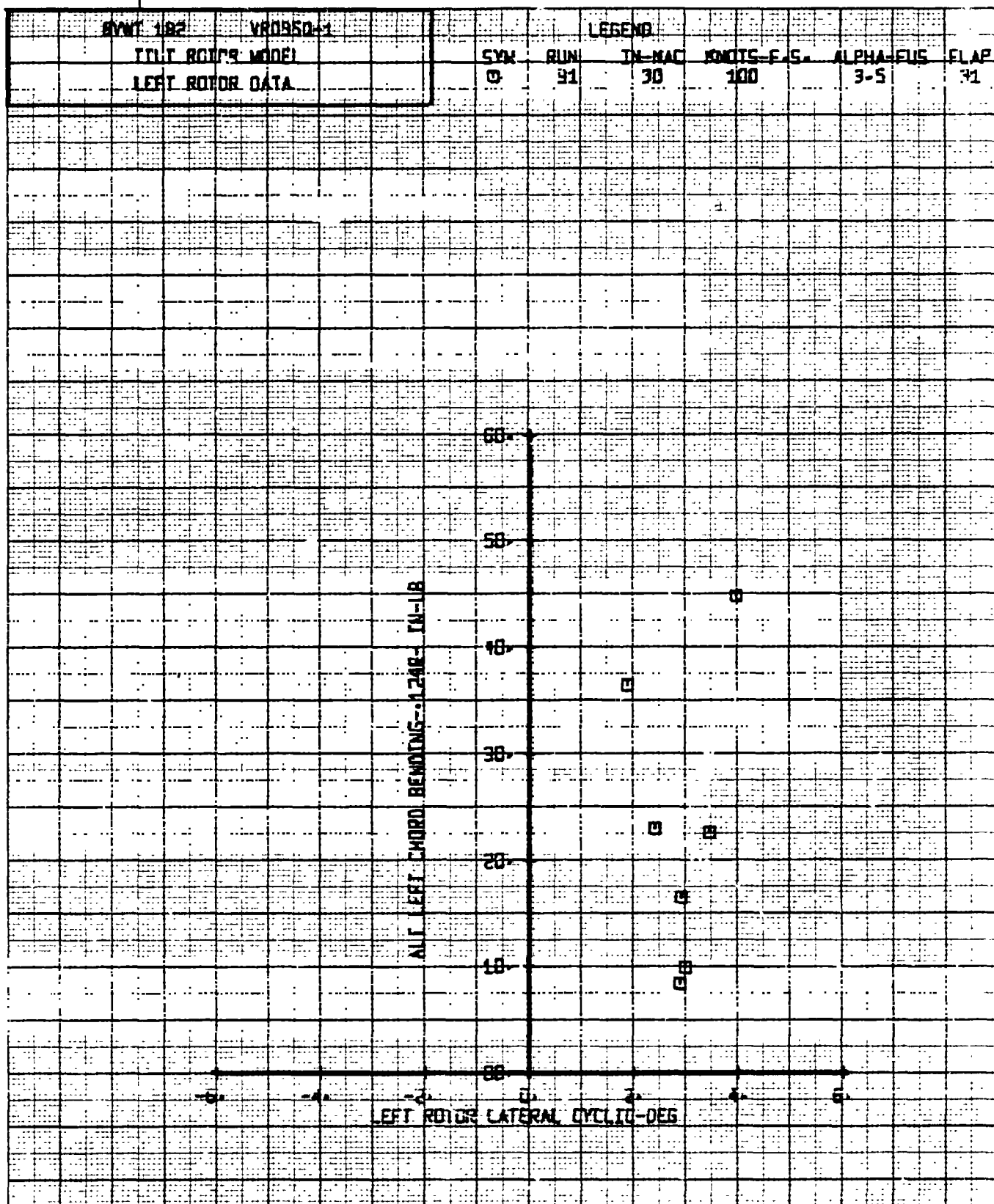
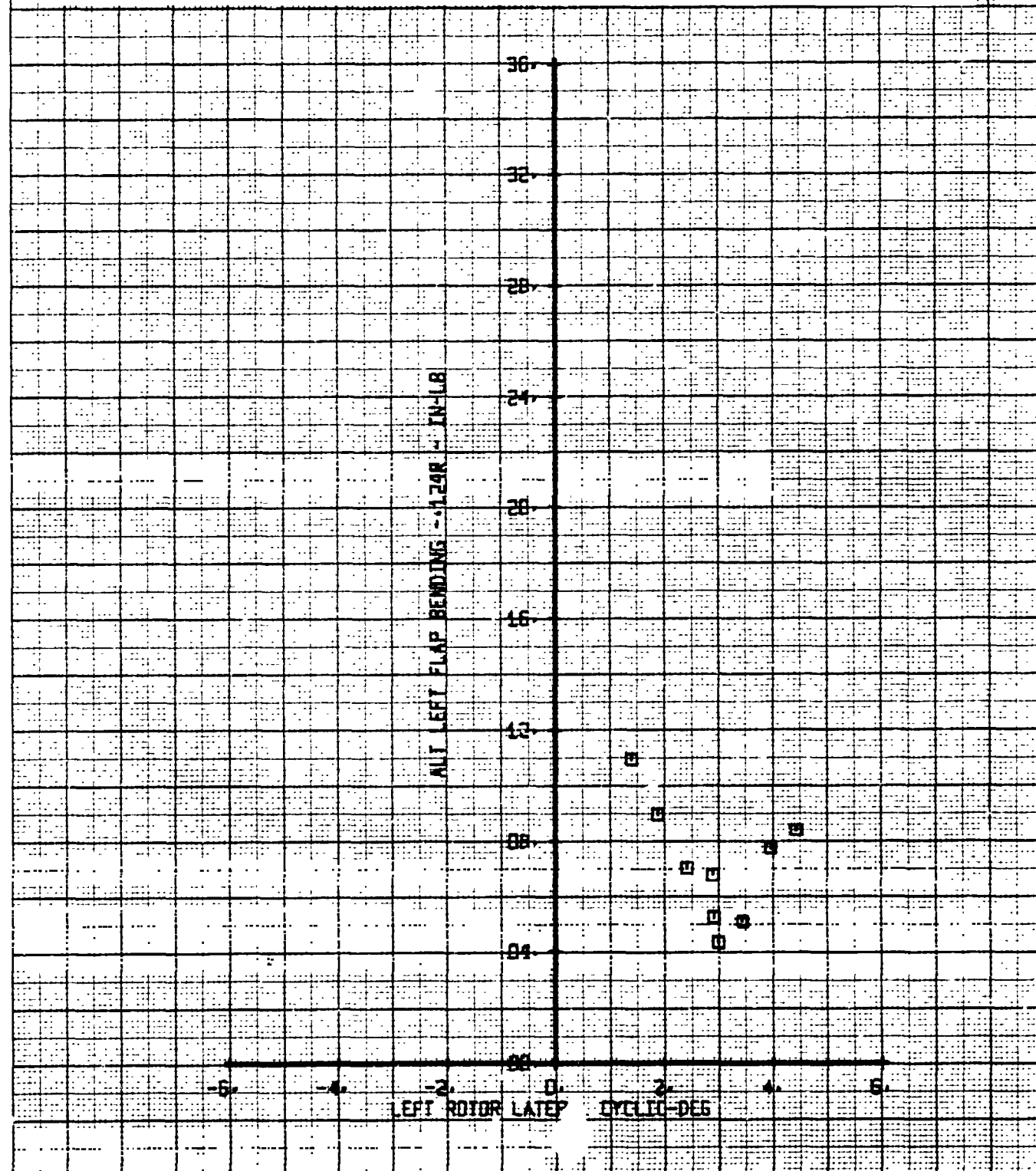
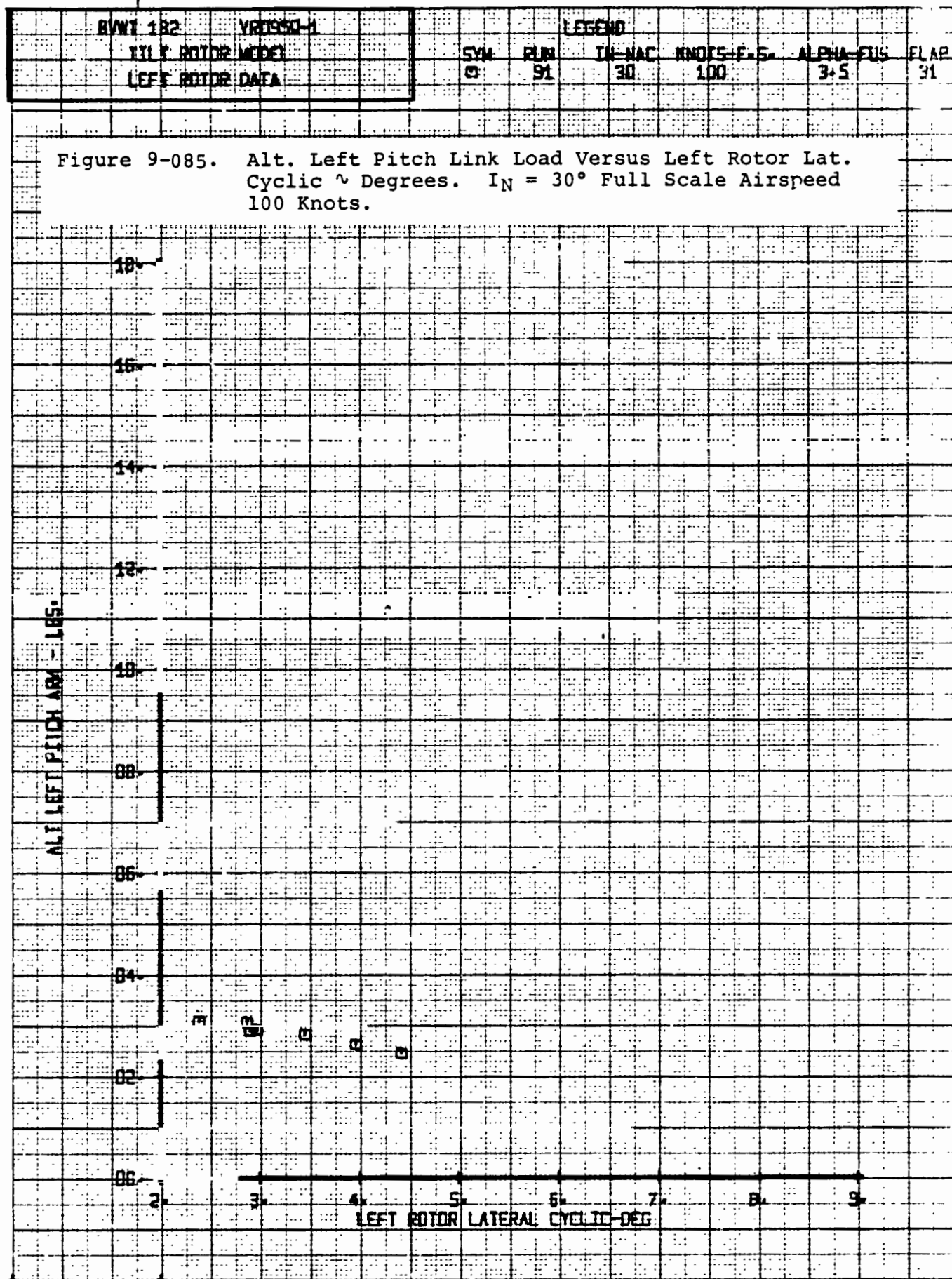


Figure 9-083. Alt. Left Chord Bending Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

BVWT 182	VR0950-1	LEGEND					
TILT ROTOR MODE		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-EUS	FLAP
LEFT ROTOR DATA		□	91	30	100	9-5	31

Figure 9-084. Alt. Left Flap Bending Versus Left Rotor Lat.
Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed
100 Knots.





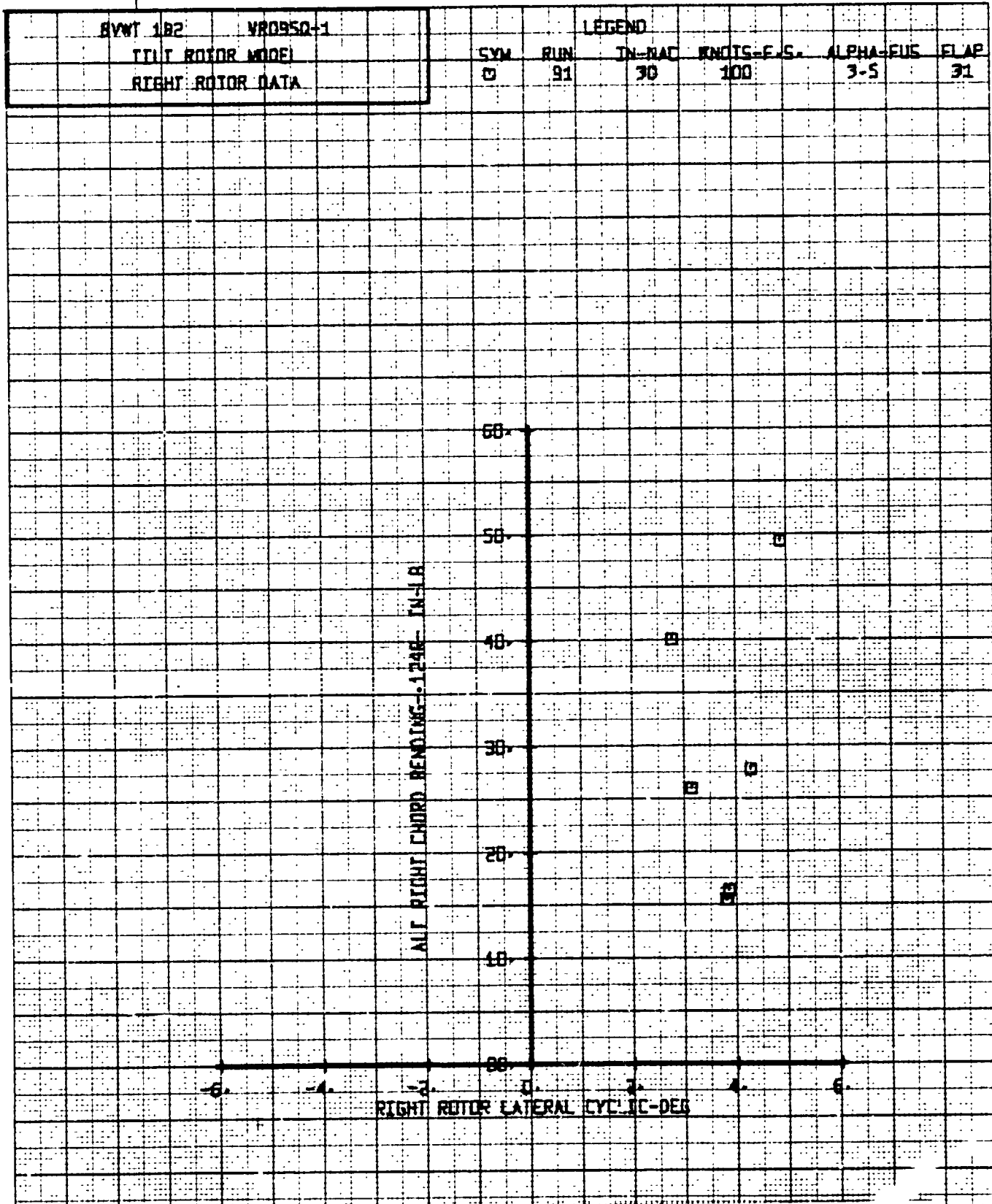
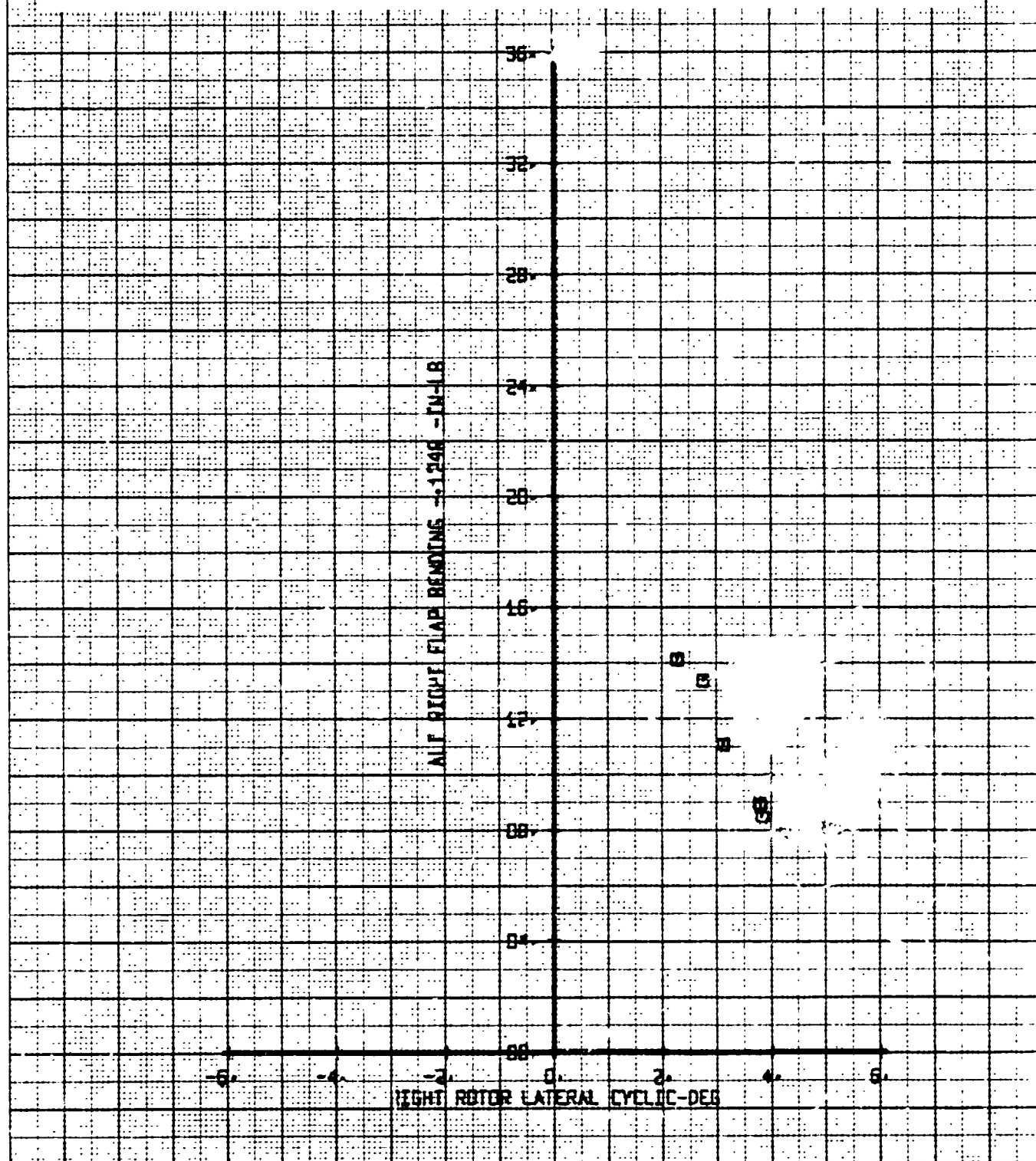


Figure 9-086. Alt. Right Chord Bending Versus Right Rotor Lat. Cyclic ~ Degrees. IN = 30° Full Scale Airspeed 100 Knots.

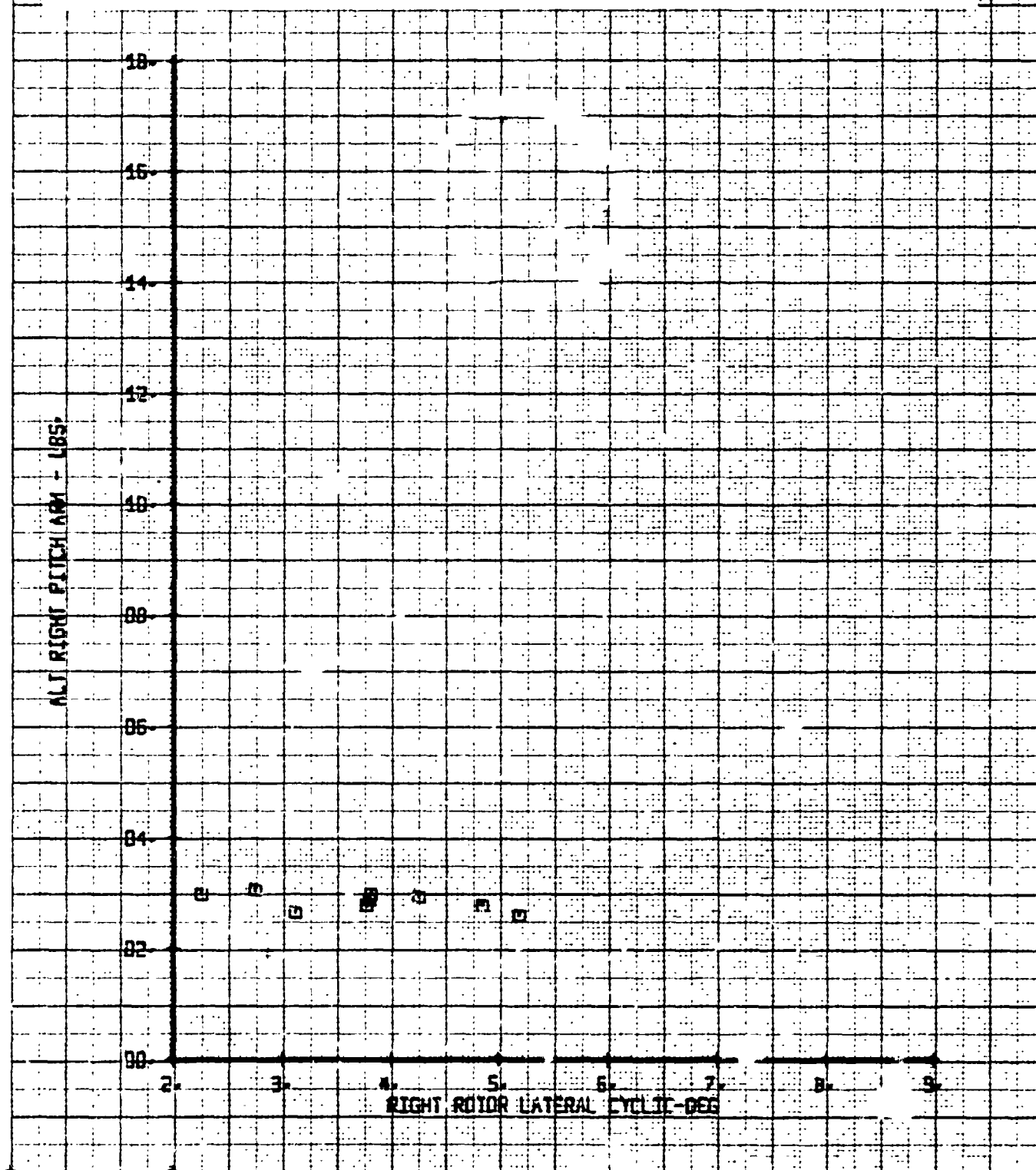
SVWT 182	VM0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FLS
RIGHT ROTOR DATA		Q	91	30	100	3-5
						FLAP 31

Figure 9-087. Alt. Right Flap Bending Versus Right Rotor Lat.
Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed
100 Knots.



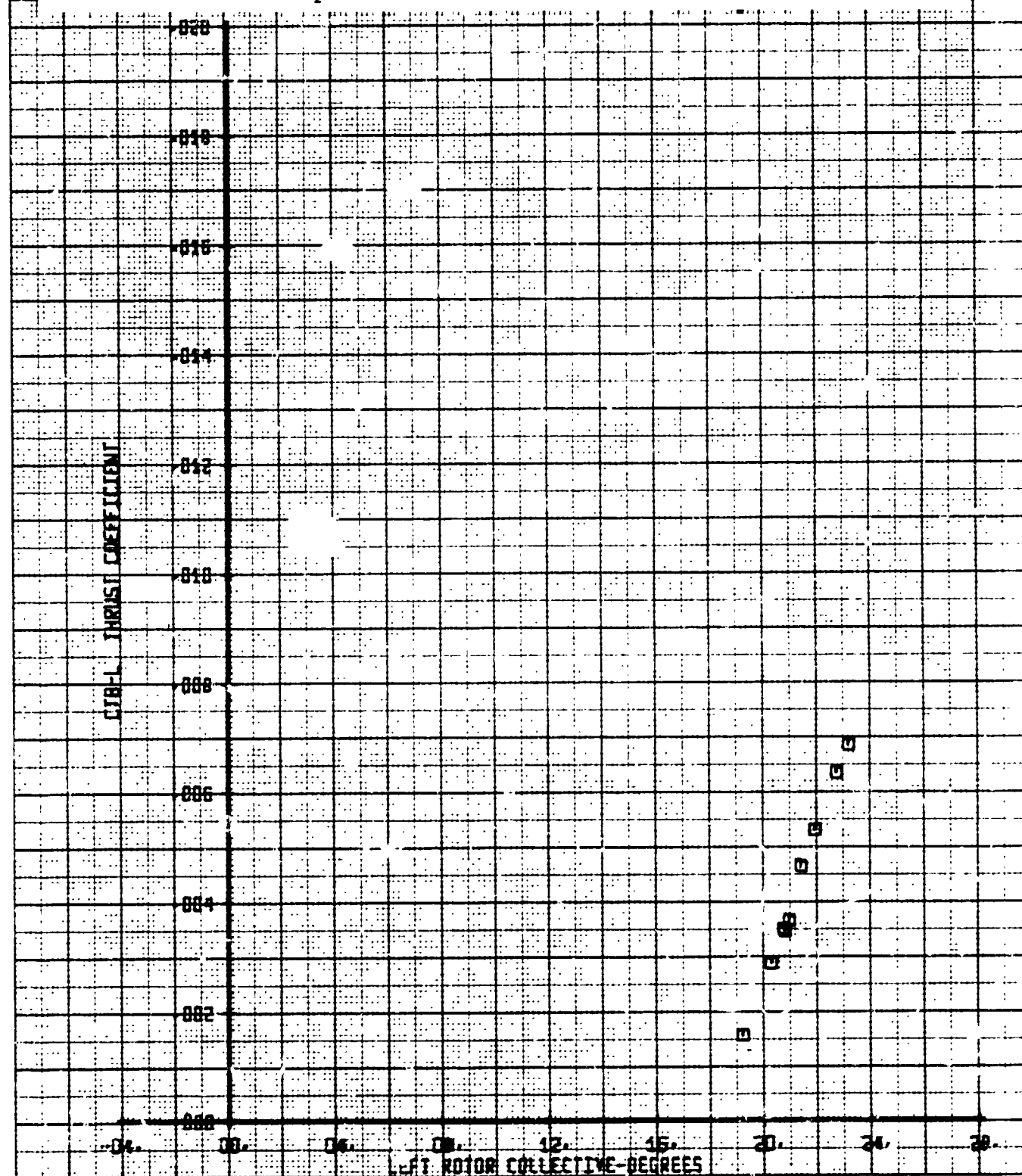
BWWT 182	YR0950-1	LEGEND				
YR0950-1	RIGHT ROTOR DATA	SYM	PLN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
		□	91	30	100	3-5
						FLAP 31

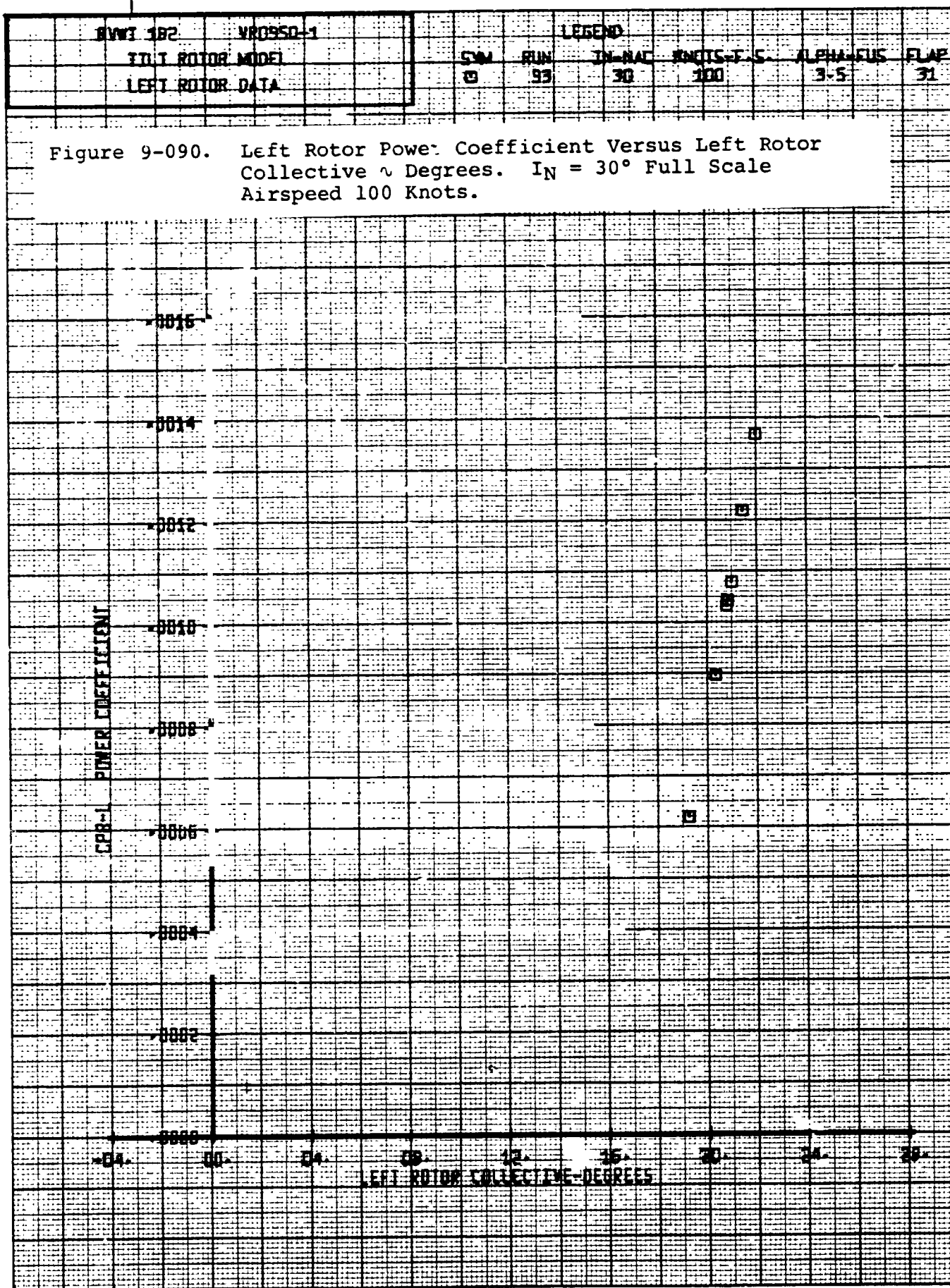
Figure 9-088. Alt. Right Pitch Link Load Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

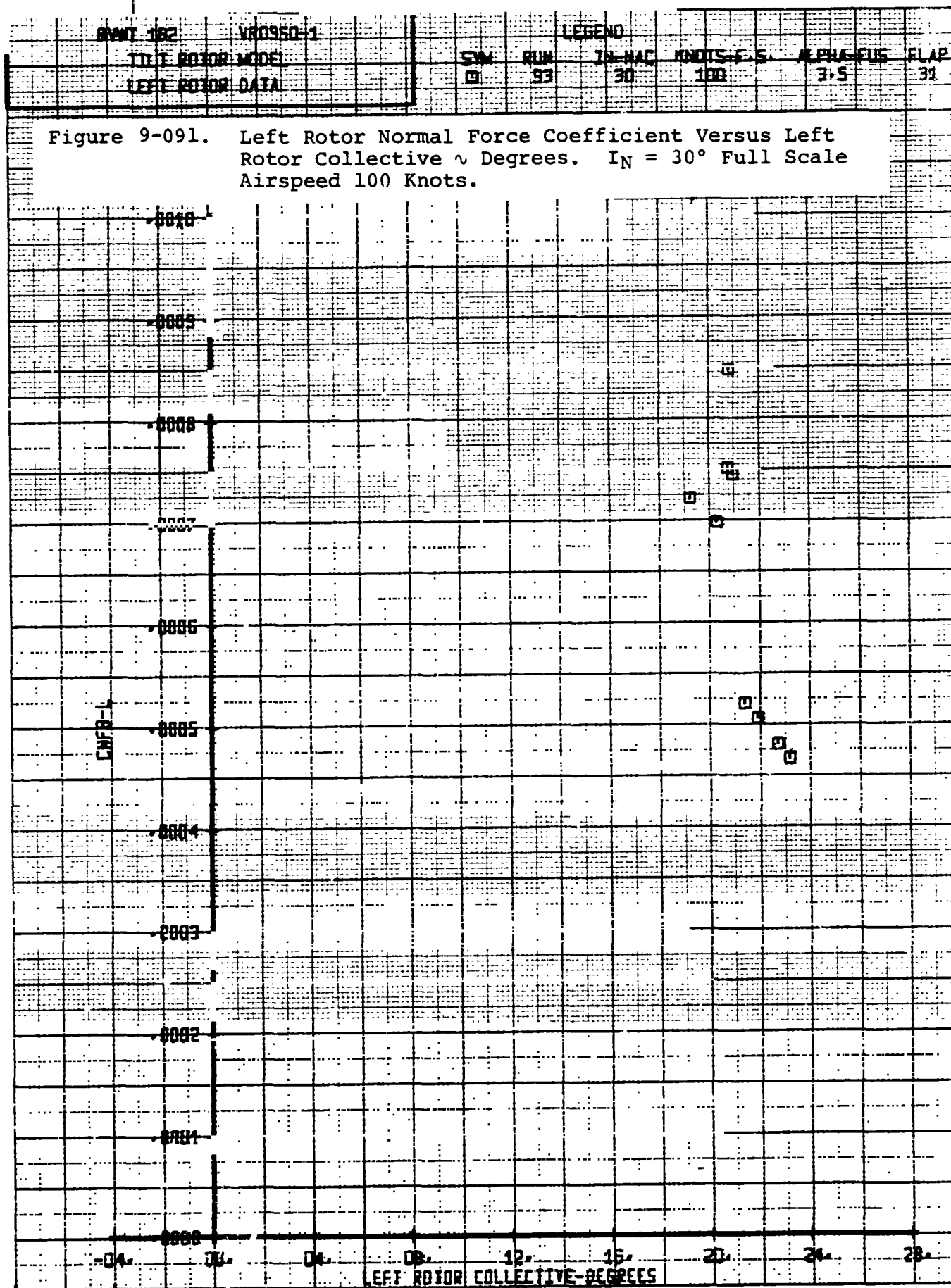


BVWT 182	VR0950-1	LEGEND				
IT-1 ROTOR MODEL		SYM	RUN	IN-HAC	NOTES-F.S.	ALPHA-FUS
LEFT ROTOR DATA		Q	93	30	100	3-5
						FLAP 31

Figure 9-089. Left Rotor Thrust Coefficient Versus Left Rotor Collective γ Degrees. $J_T = 30^\circ$ Full Scale
Airspeed 100 Knots.







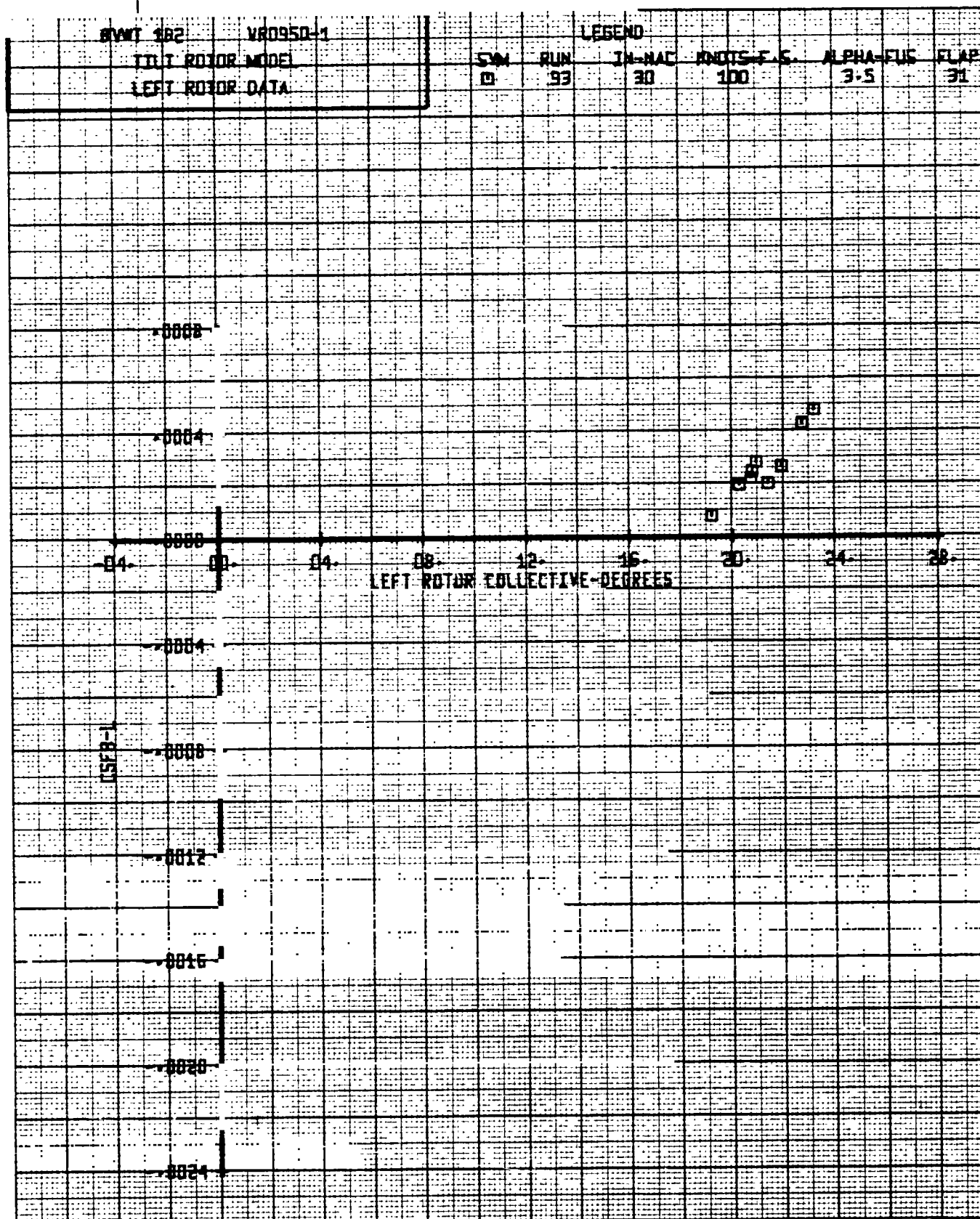


Figure 9-092. Left Rotor Side Force Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

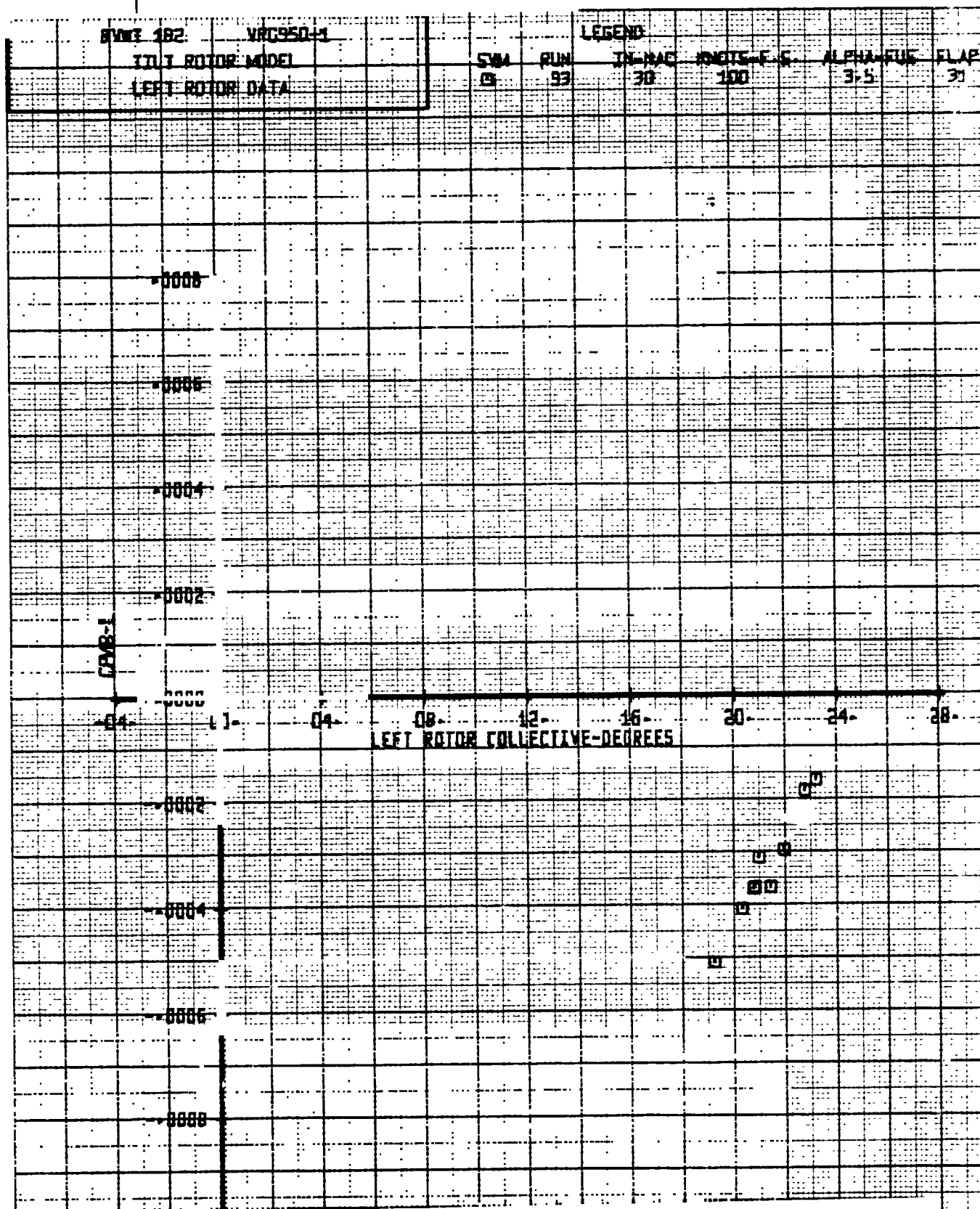
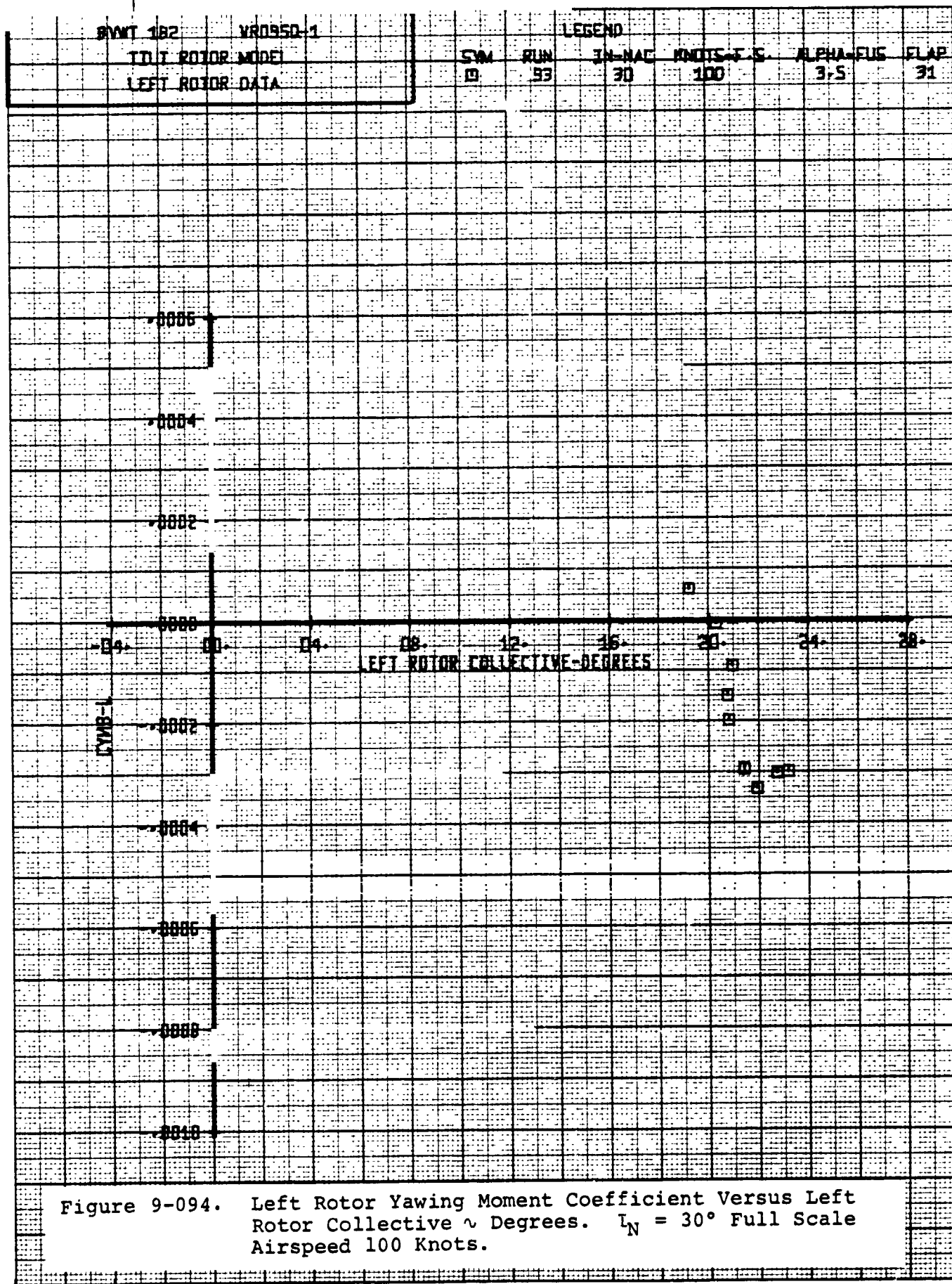
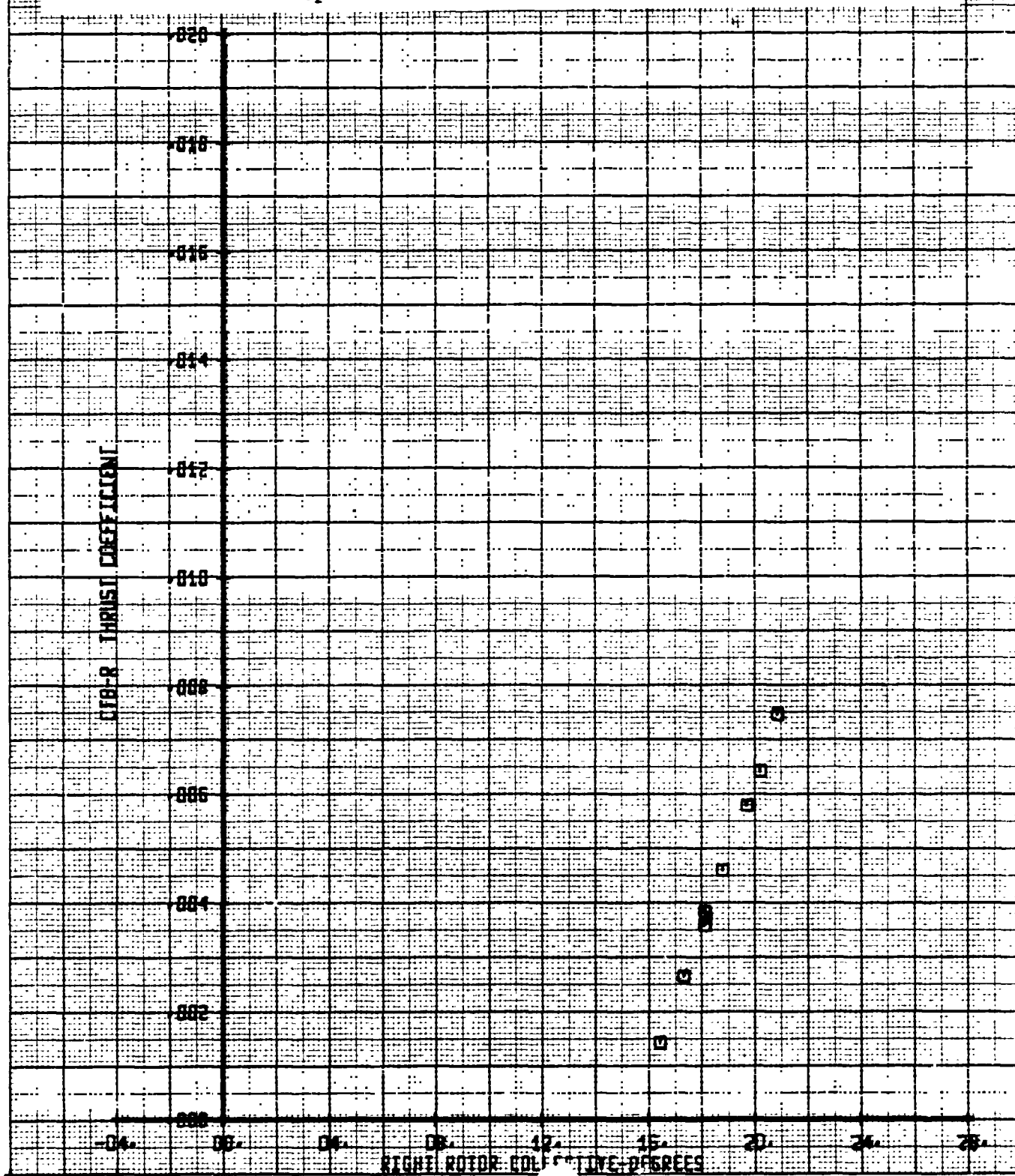


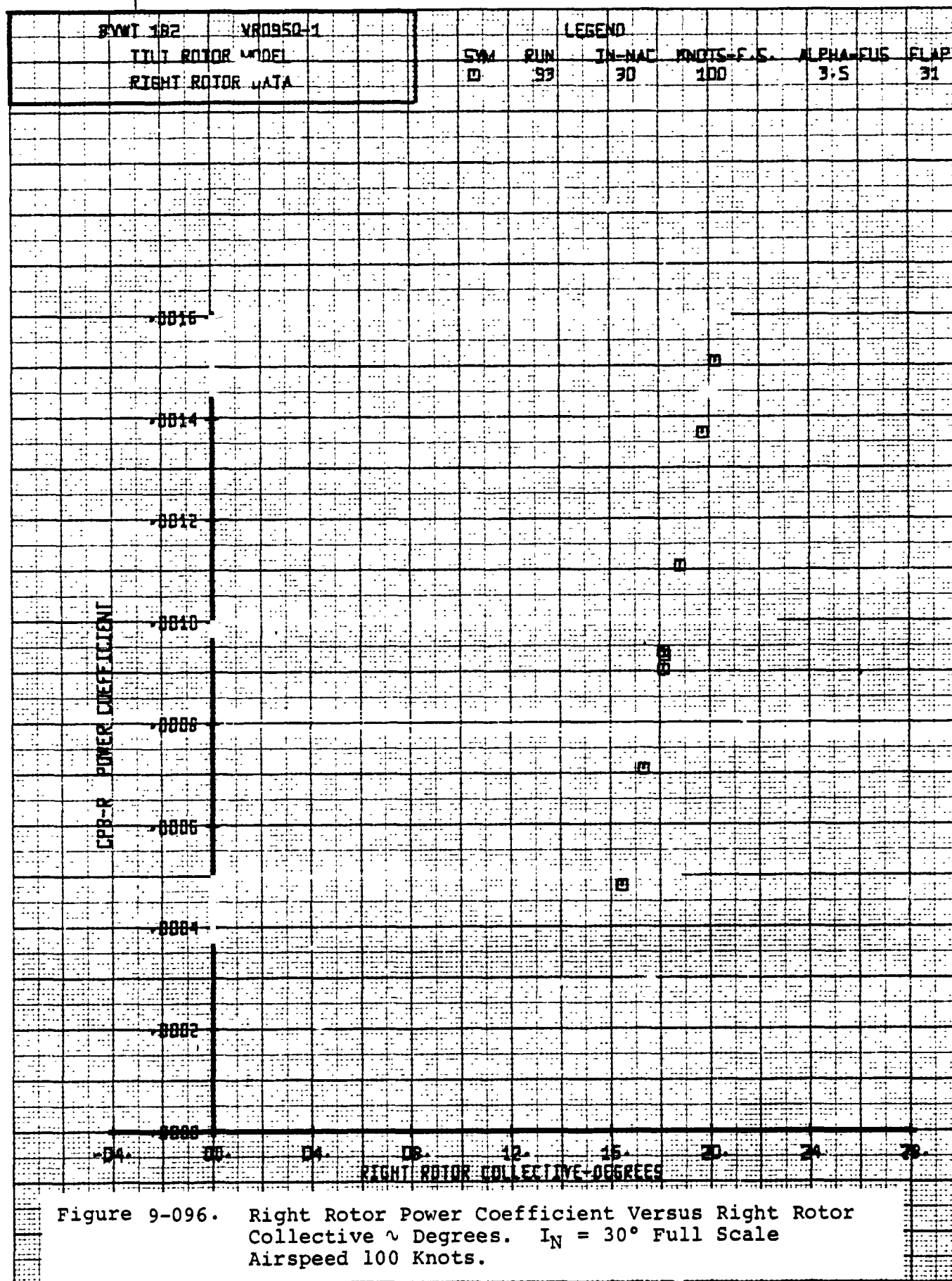
Figure 9-093. Left Rotor Pitching Moment Coefficient Versus Left Rotor Collective \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



BVWT 182	VR0950-1	LEGEND						
TDI ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP	
RIGHT ROTOR DATA		□	93	30	100	3.5	31	

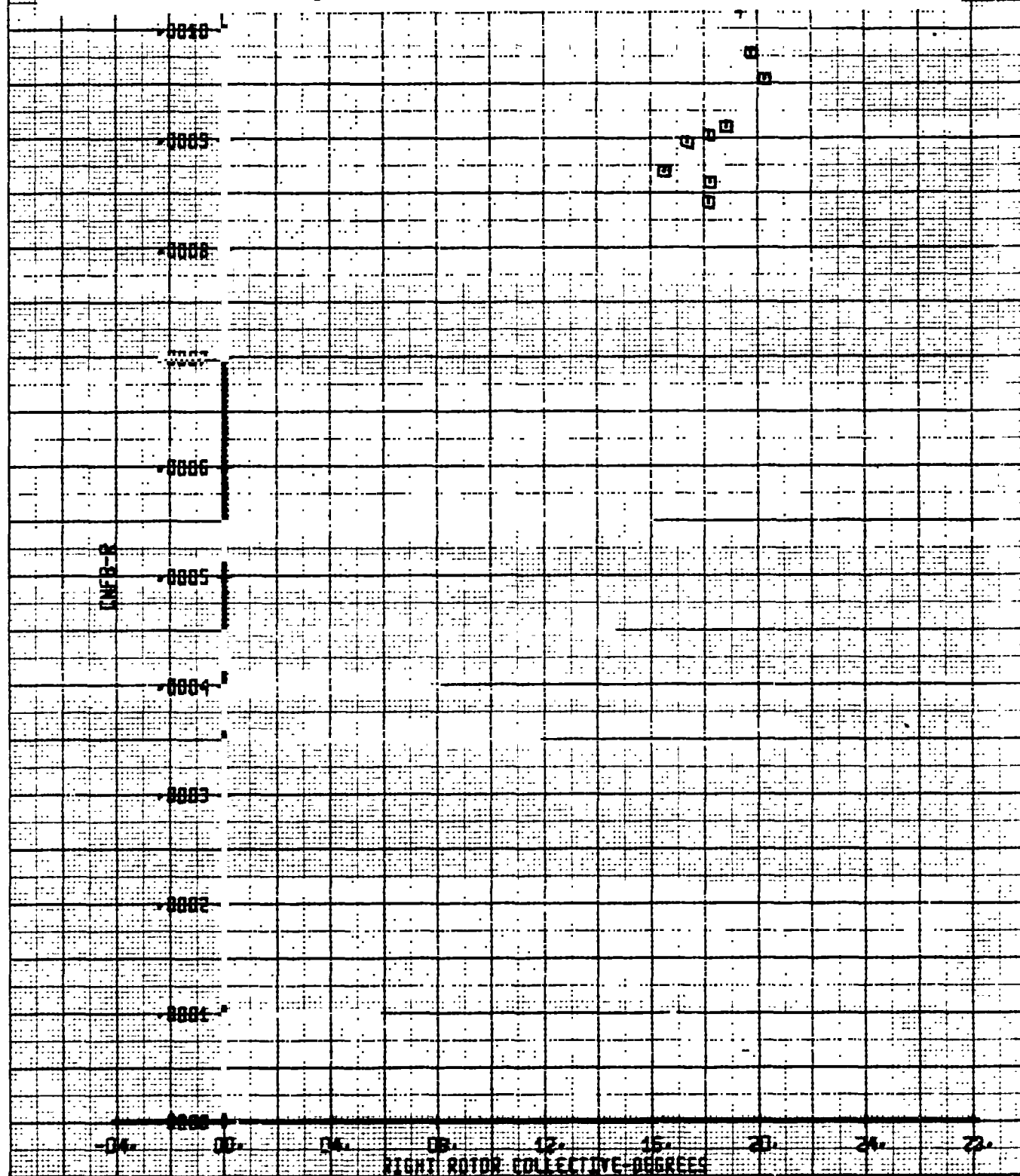
Figure 9-095. Right Rotor Thrust Coefficient Versus Right Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 100 Knots.





BYWT 182	VR0950-1	LEGEND				
TITLE ROTOR MODE		SYM	RUN	IN-HAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		D	93	30	100	3.5
						FLAP 31

Figure 9-097. Right Rotor Normal Force Coefficient Versus Right Rotor Collective γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

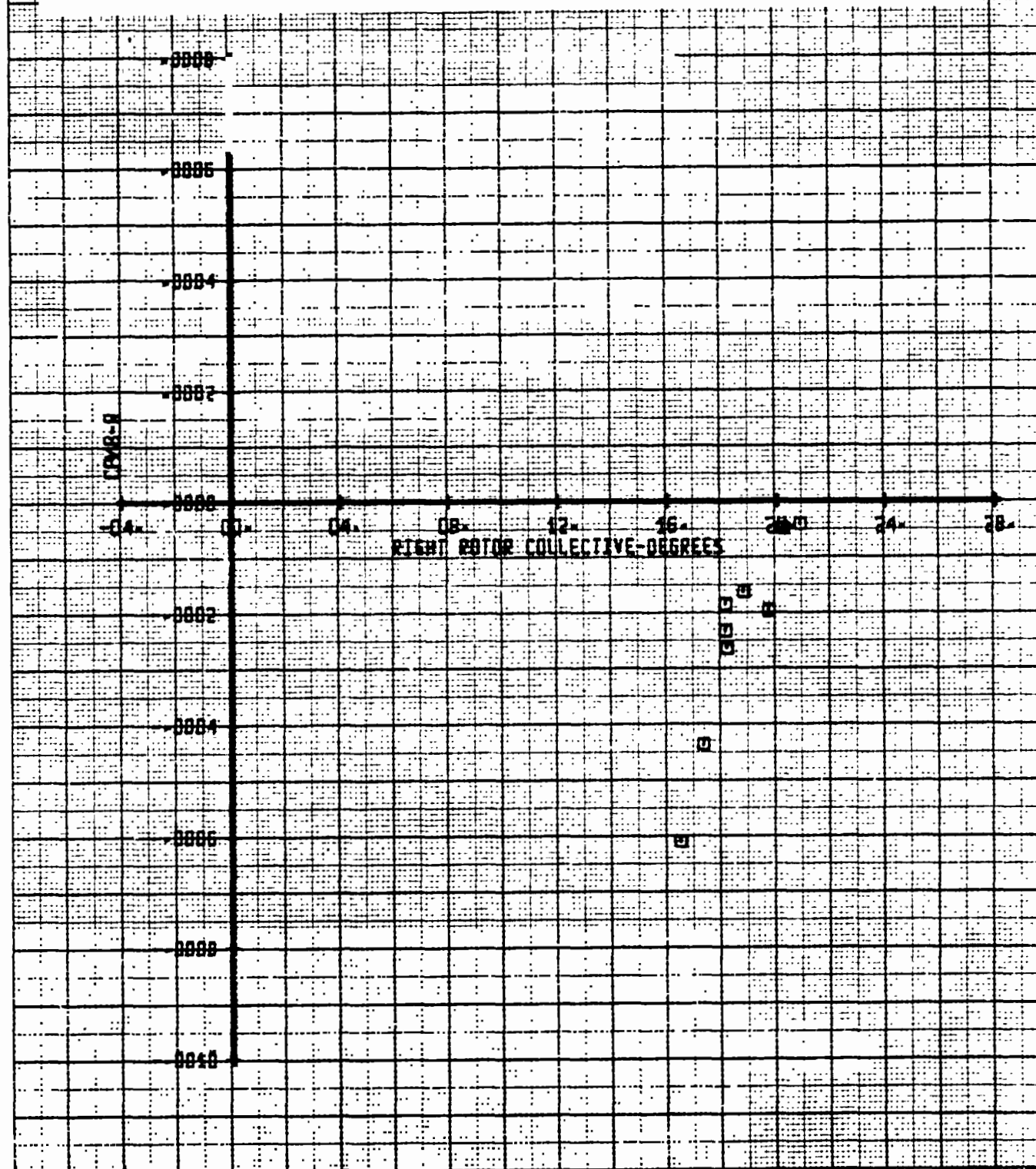


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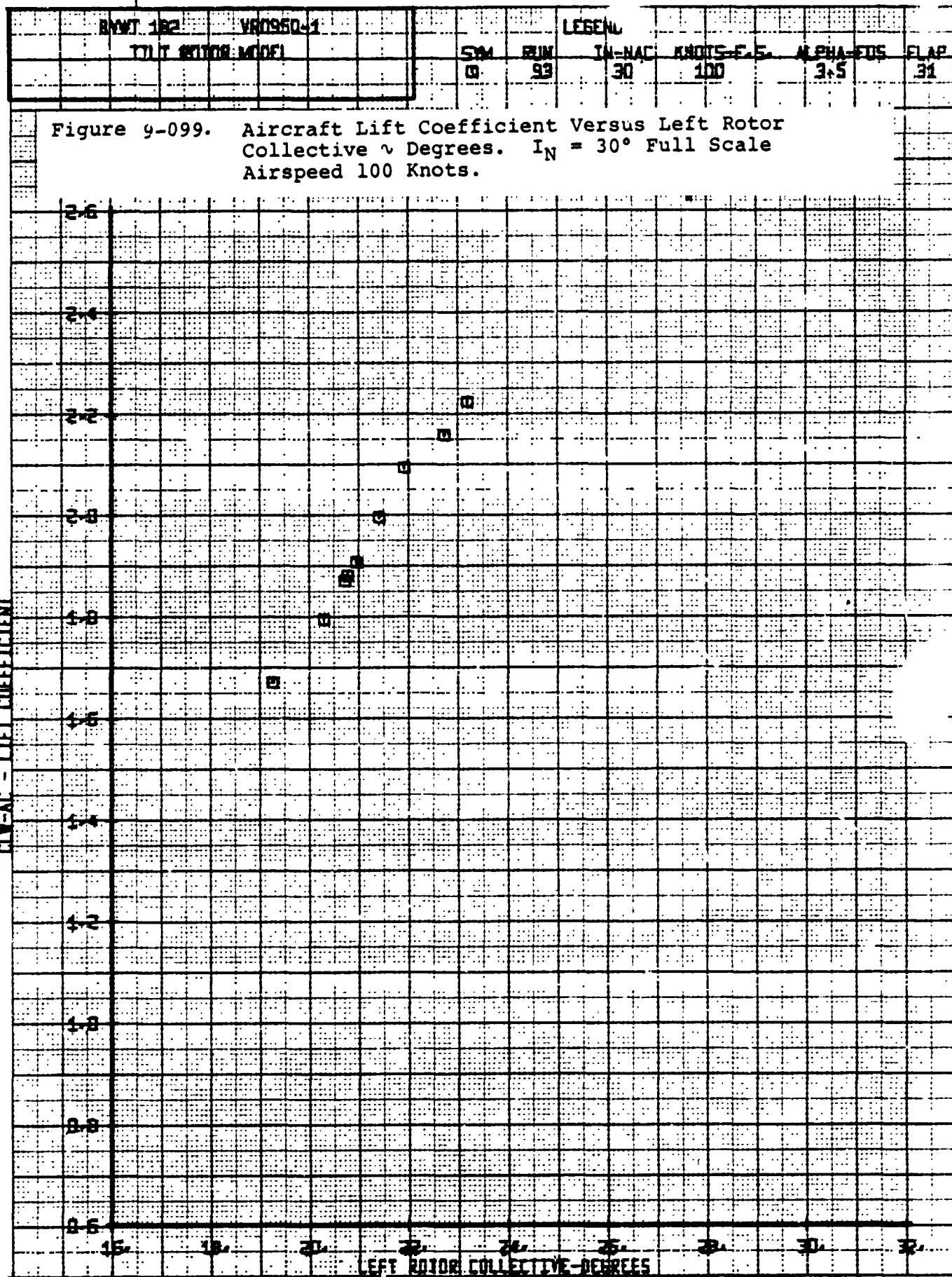
BYWT 182	YR0950-1	LEGEND				
YR0950-1	RIGHT ROTOR DATA	SWM	RUM	IN-MAC	KNOTS-F.S.	ALPHA-FUS
		0	93	30	100	3.5
						FLAP
						31

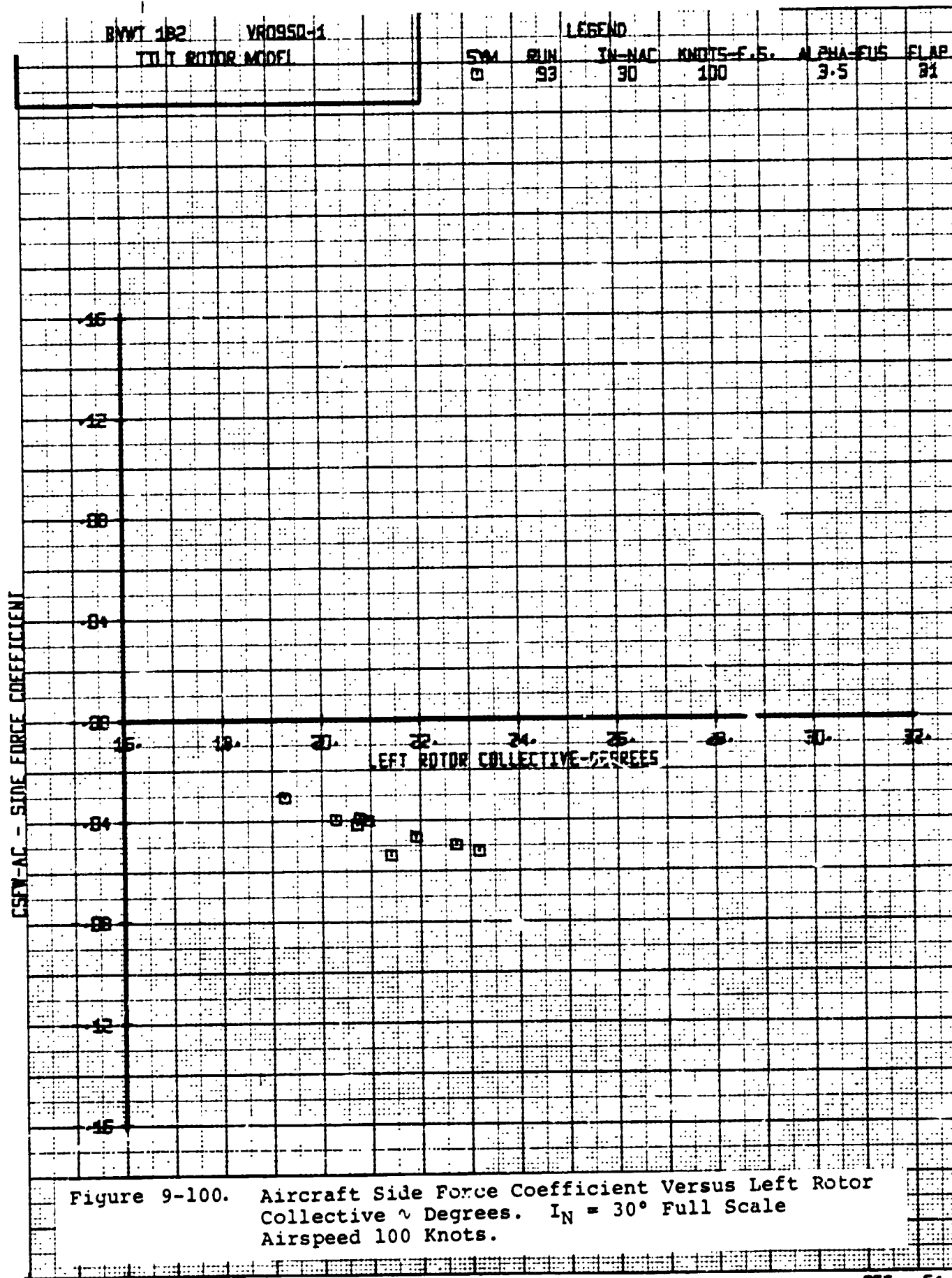
Figure 9-098. Right Rotor Pitching Moment Coefficient Versus Right Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

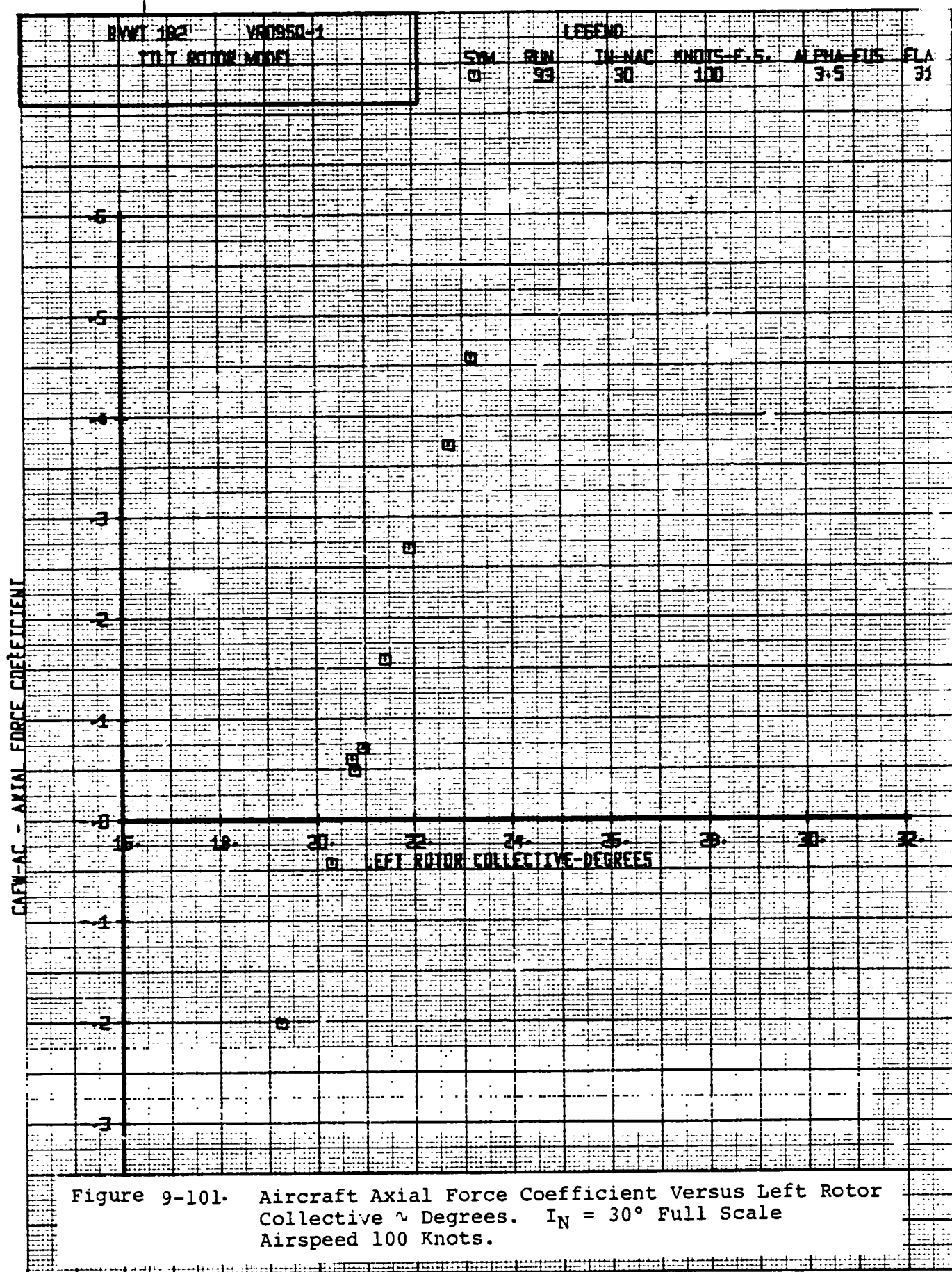


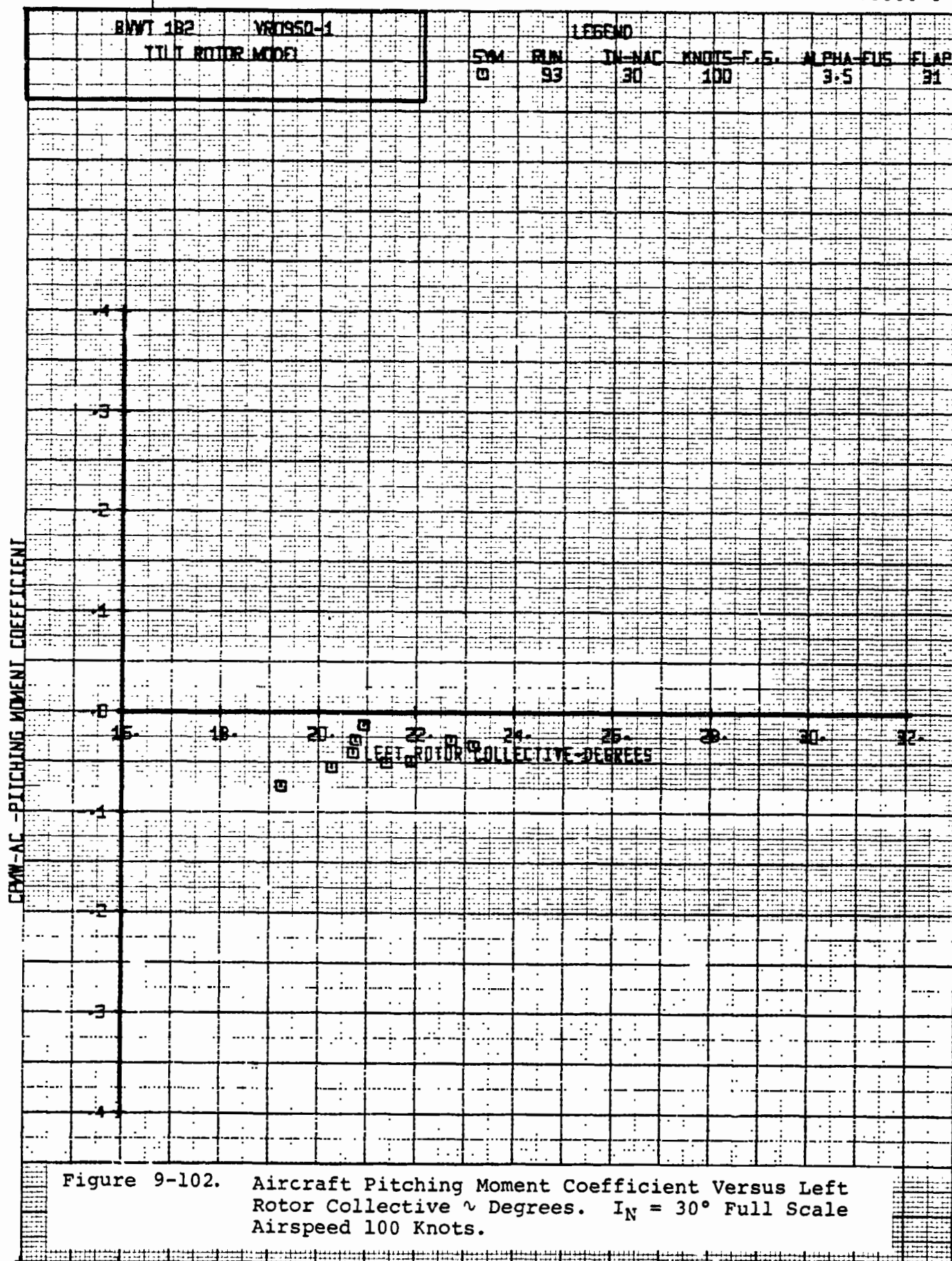
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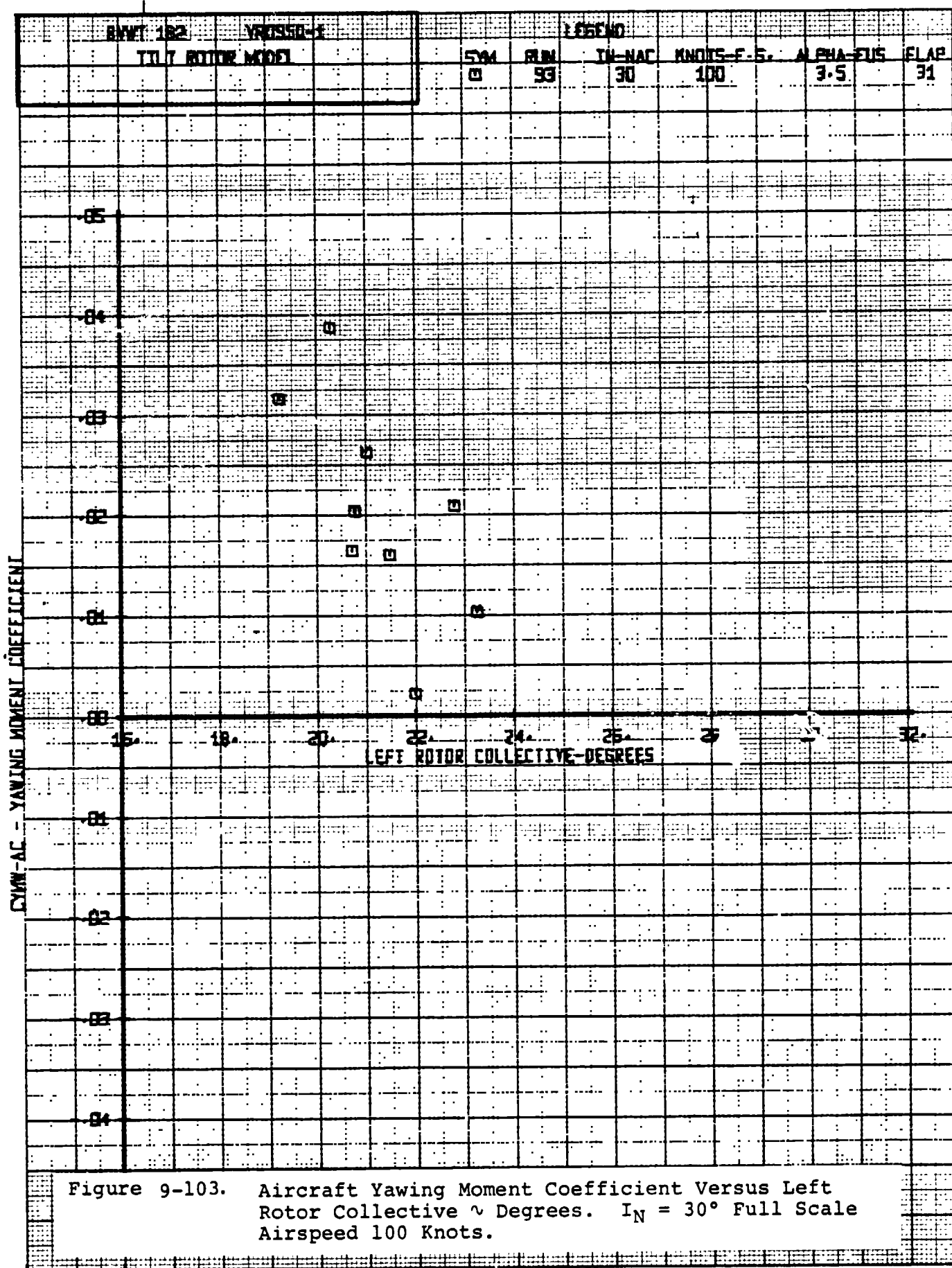
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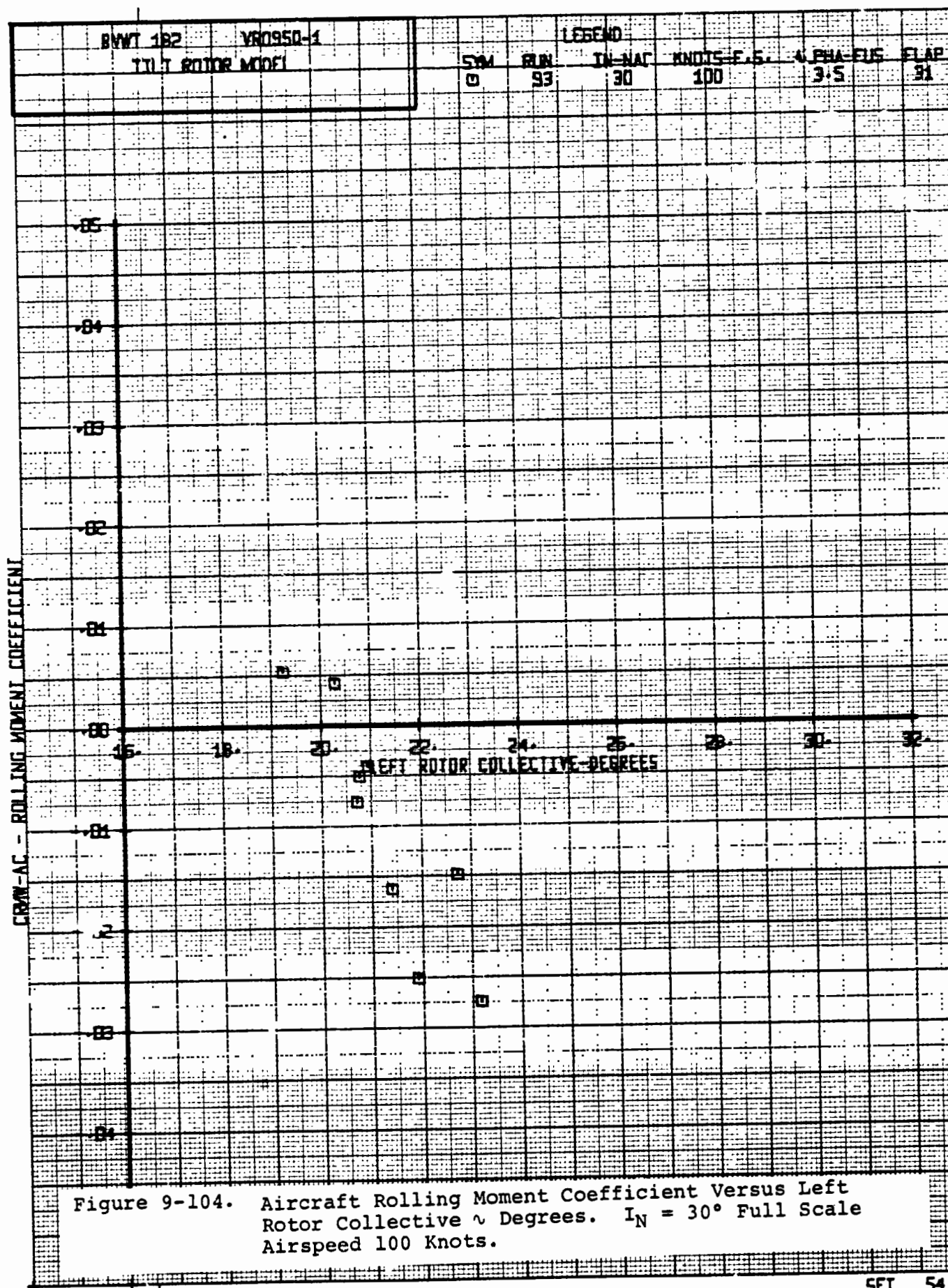












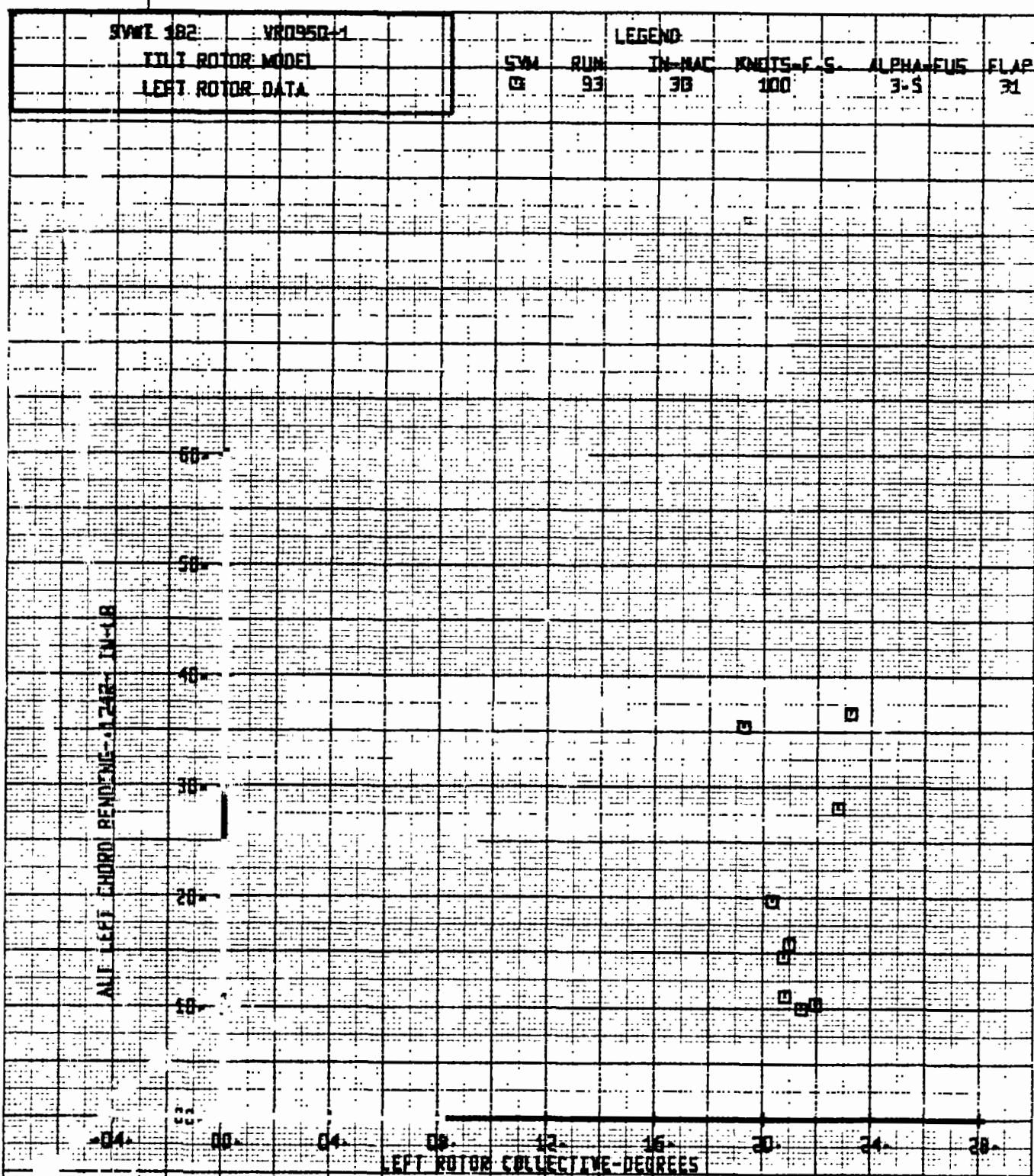
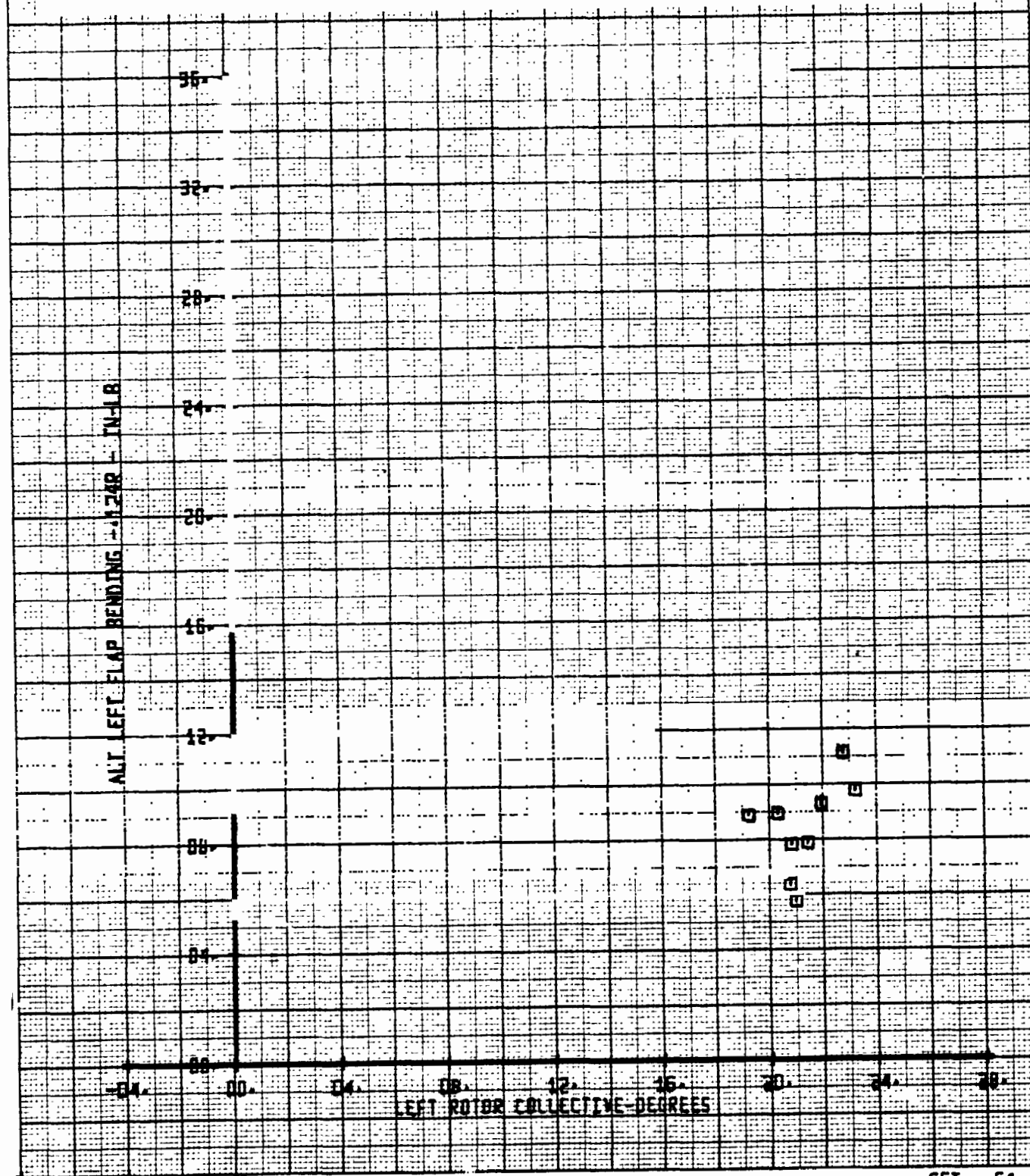
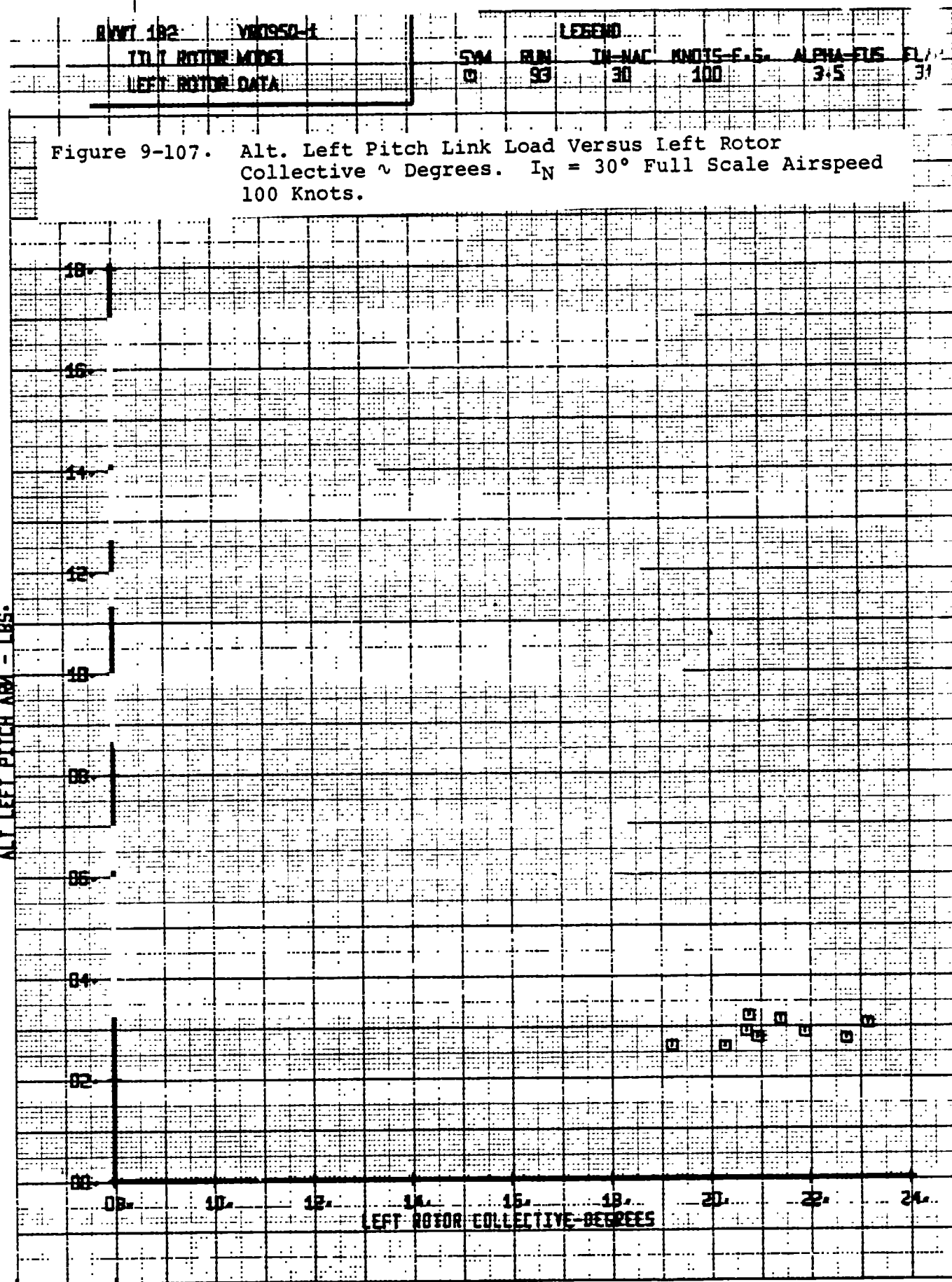


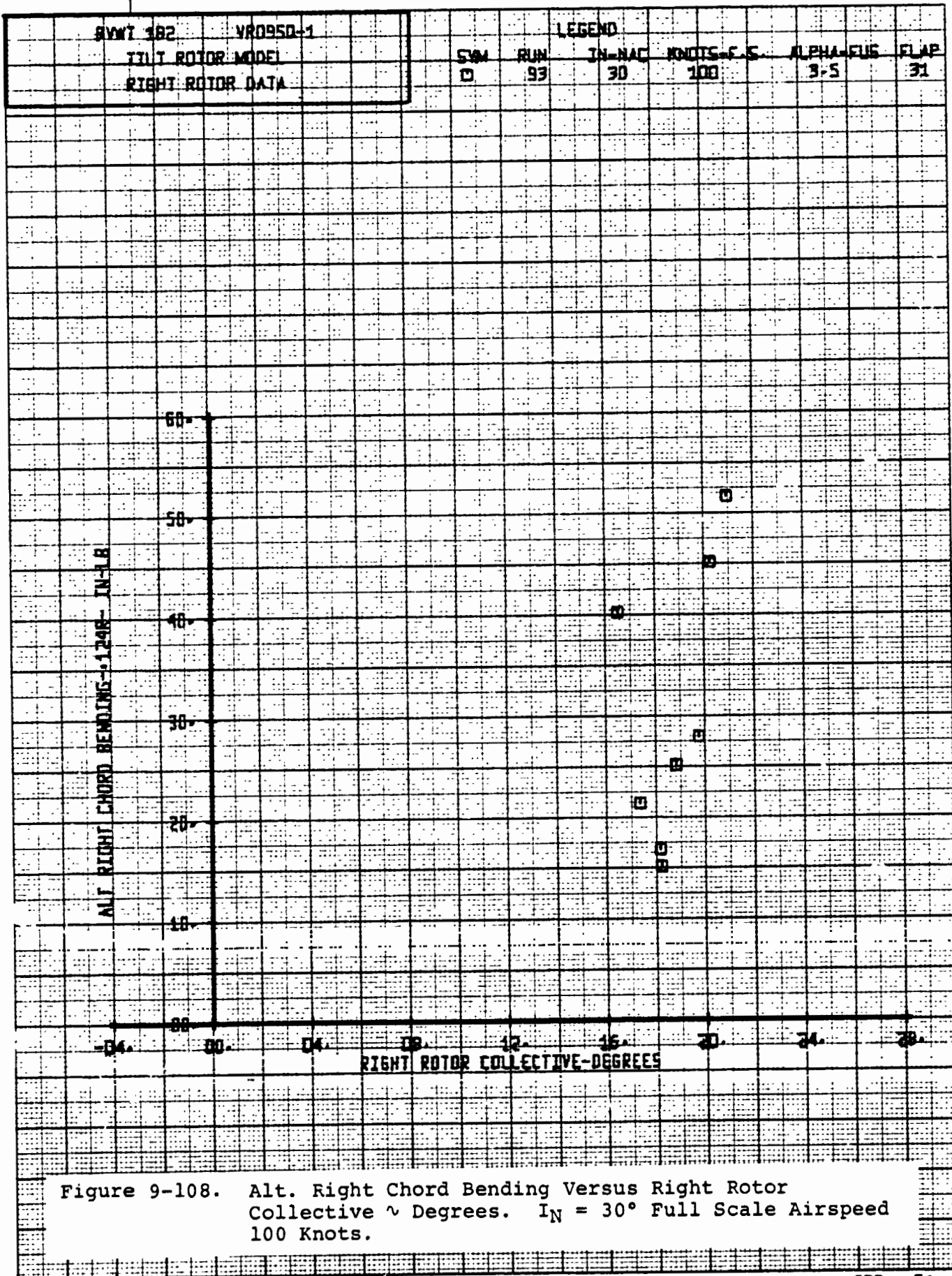
Figure 9-105. Alt. Left Chord Bending Versus Left Rotor Collective
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

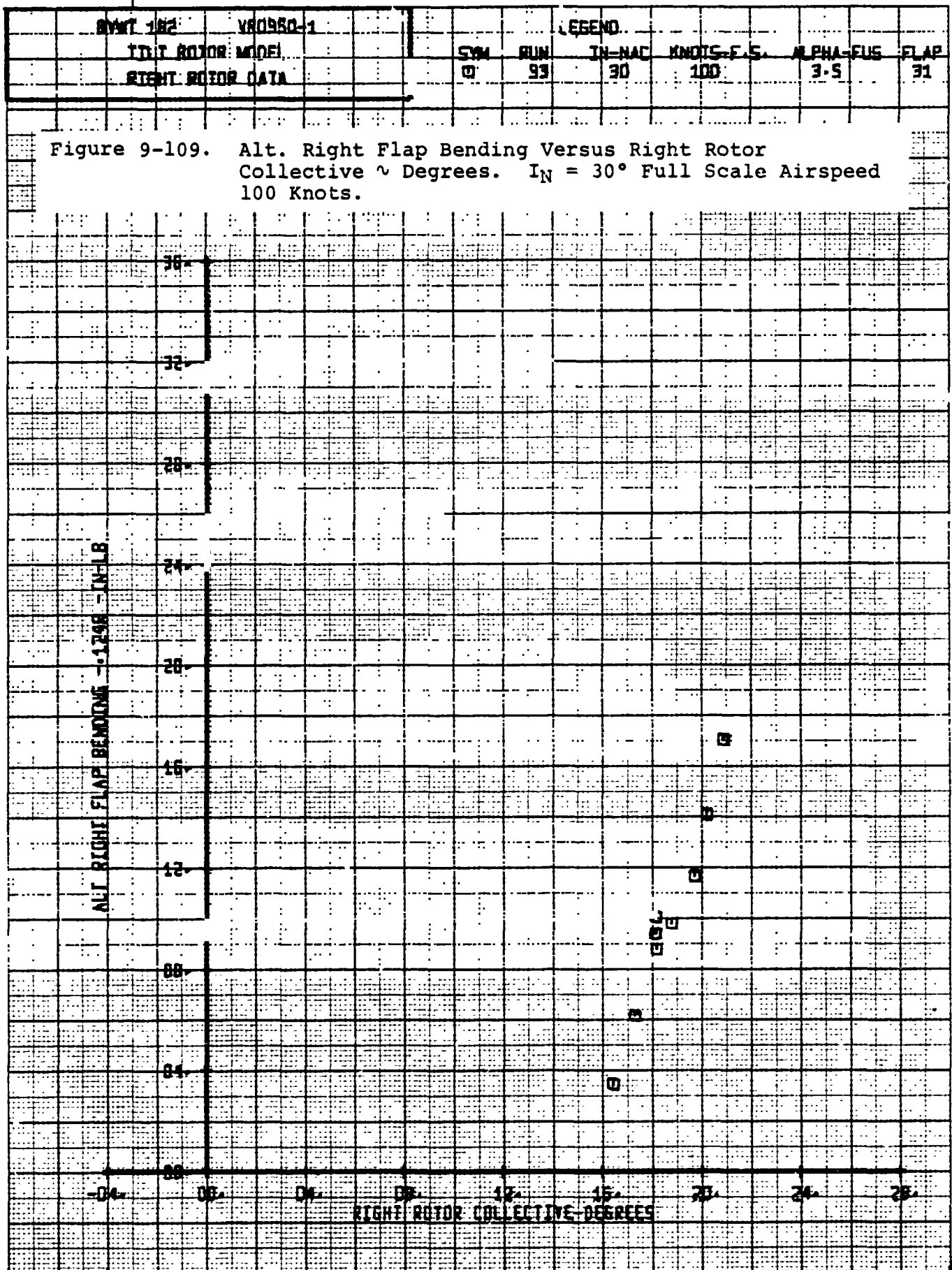
BYWT 182	VR0950-1	LEGEND					
LEFT ROTOR MODEL		SWM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
LEFT ROTOR DATA		0	93	30	100	3-5	31

Figure 9-106. Alt. Left Flap Bending Versus Left Rotor Collective
~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



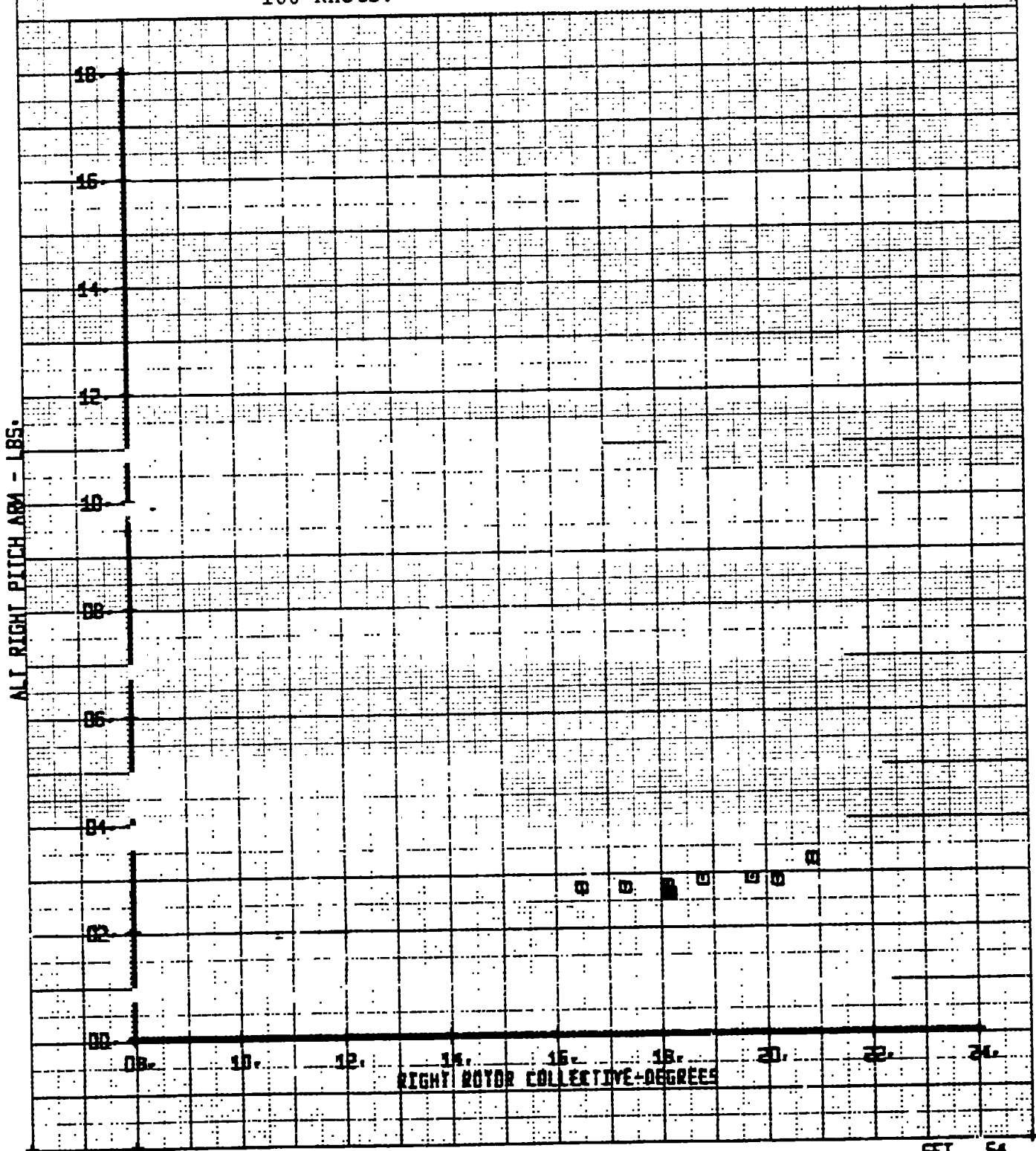






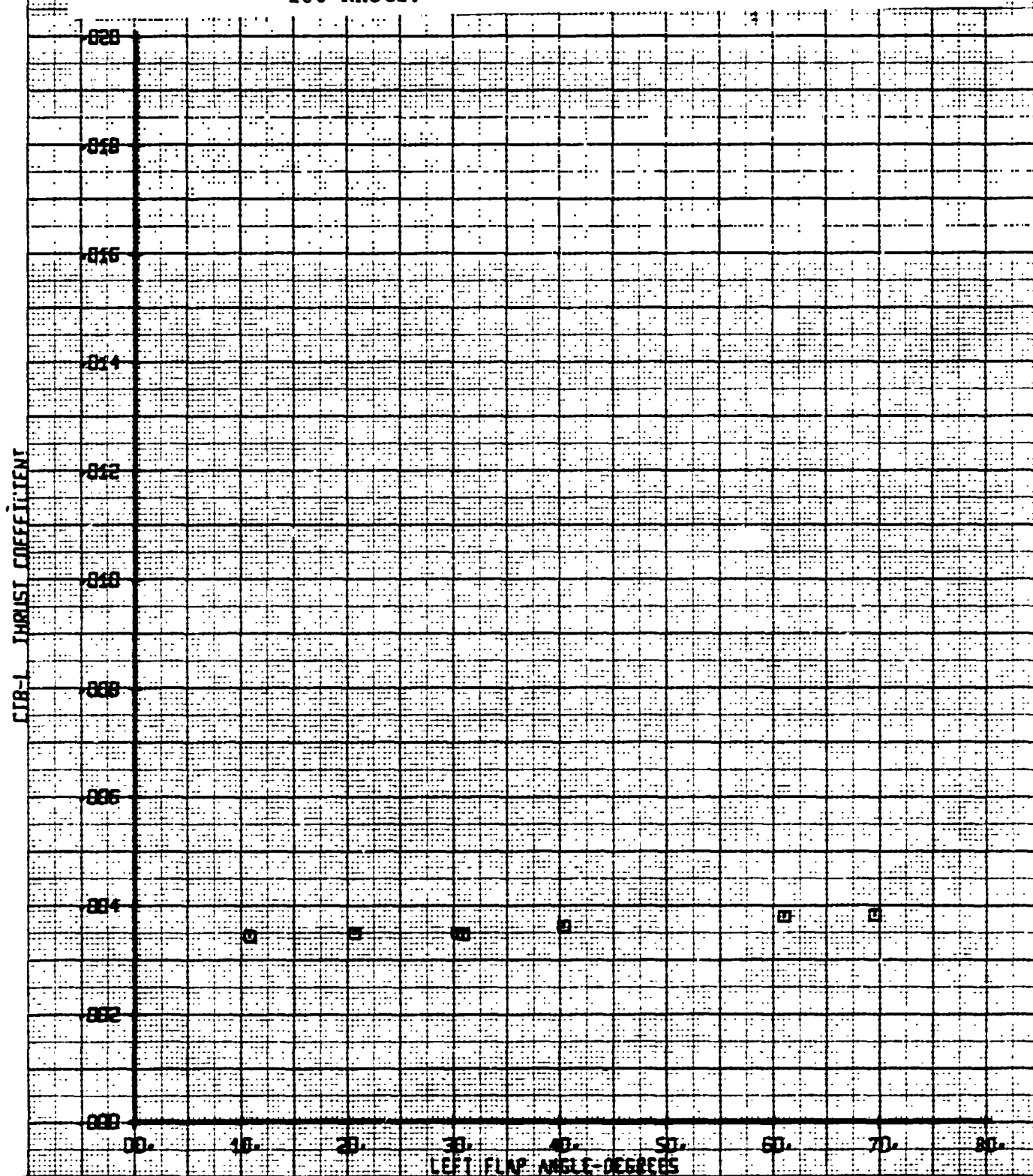
BWV 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAF	KNOTS-C.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	93	30	100	3.5
						81

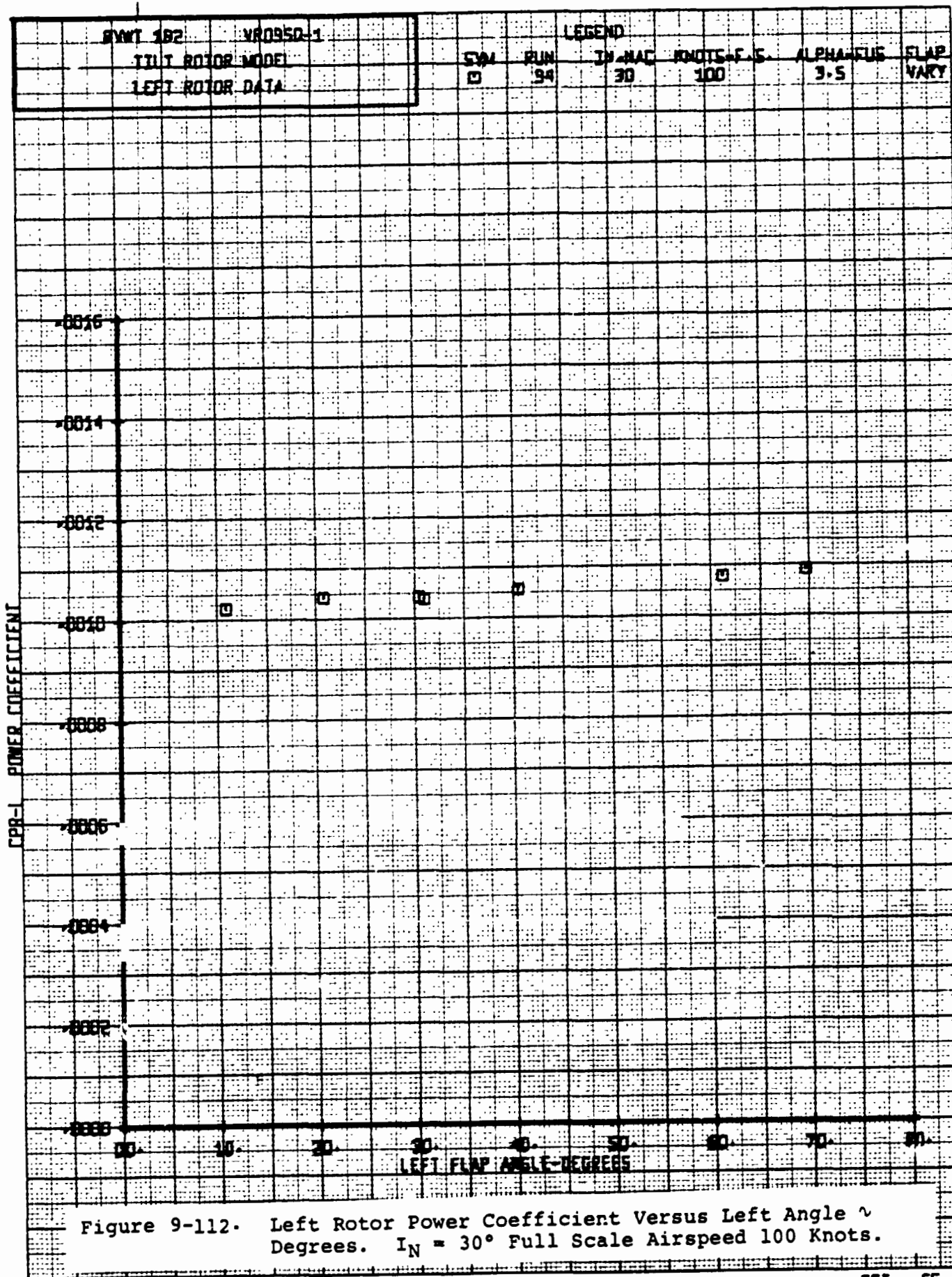
Figure 9-110. Alt. Right Pitch Link Load Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

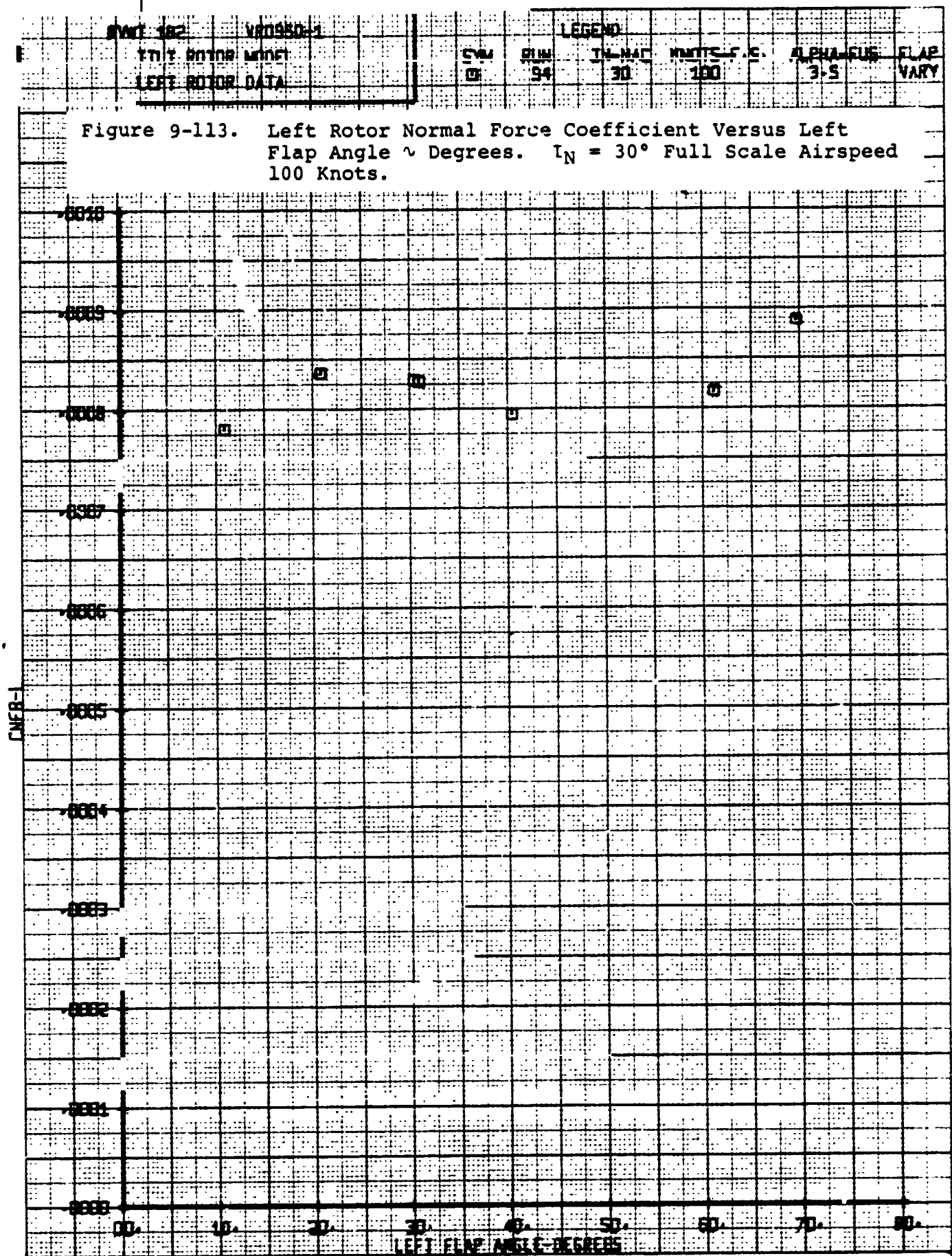


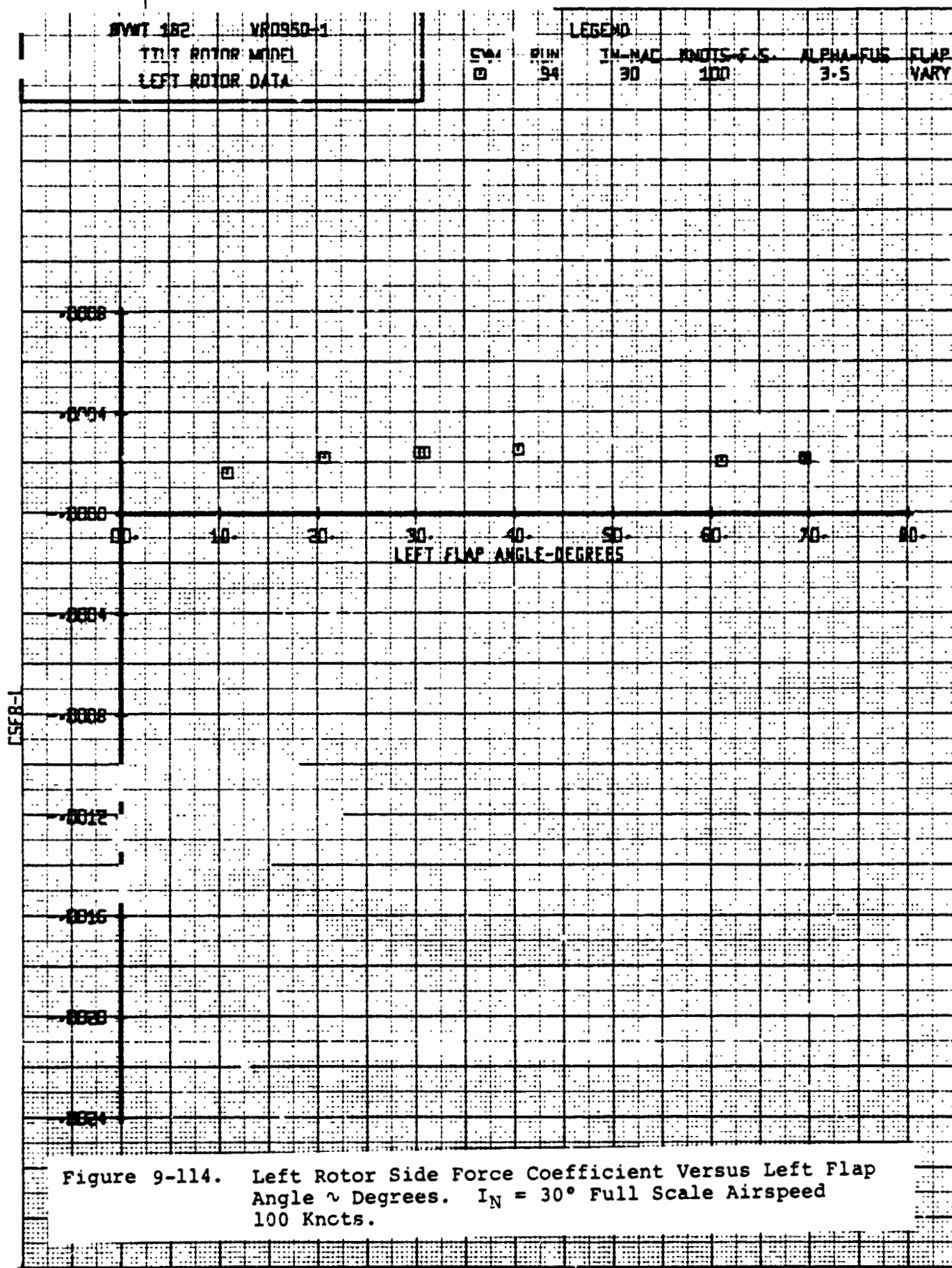
BYWT 182	VR095D-1	LEGEND				
LEFT ROTOR MODEL		SW	RUN	IN-NAC	FOOTS-F.S.	ALPHA-FLG
LEFT ROTOR DATA		0	94	30	100	3-5
						FLAP VARY

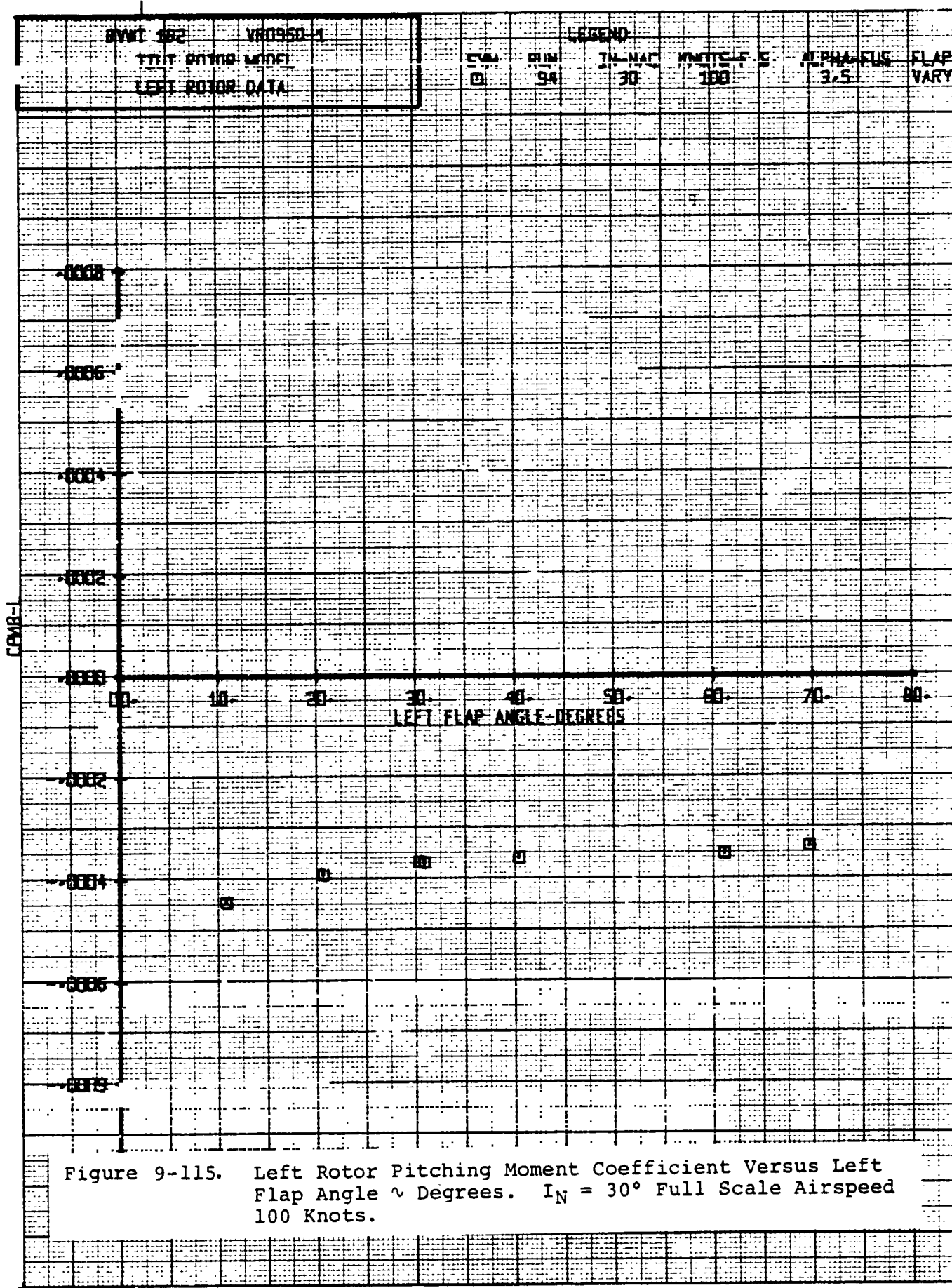
Figure 9-111. Left Rotor Thrust Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

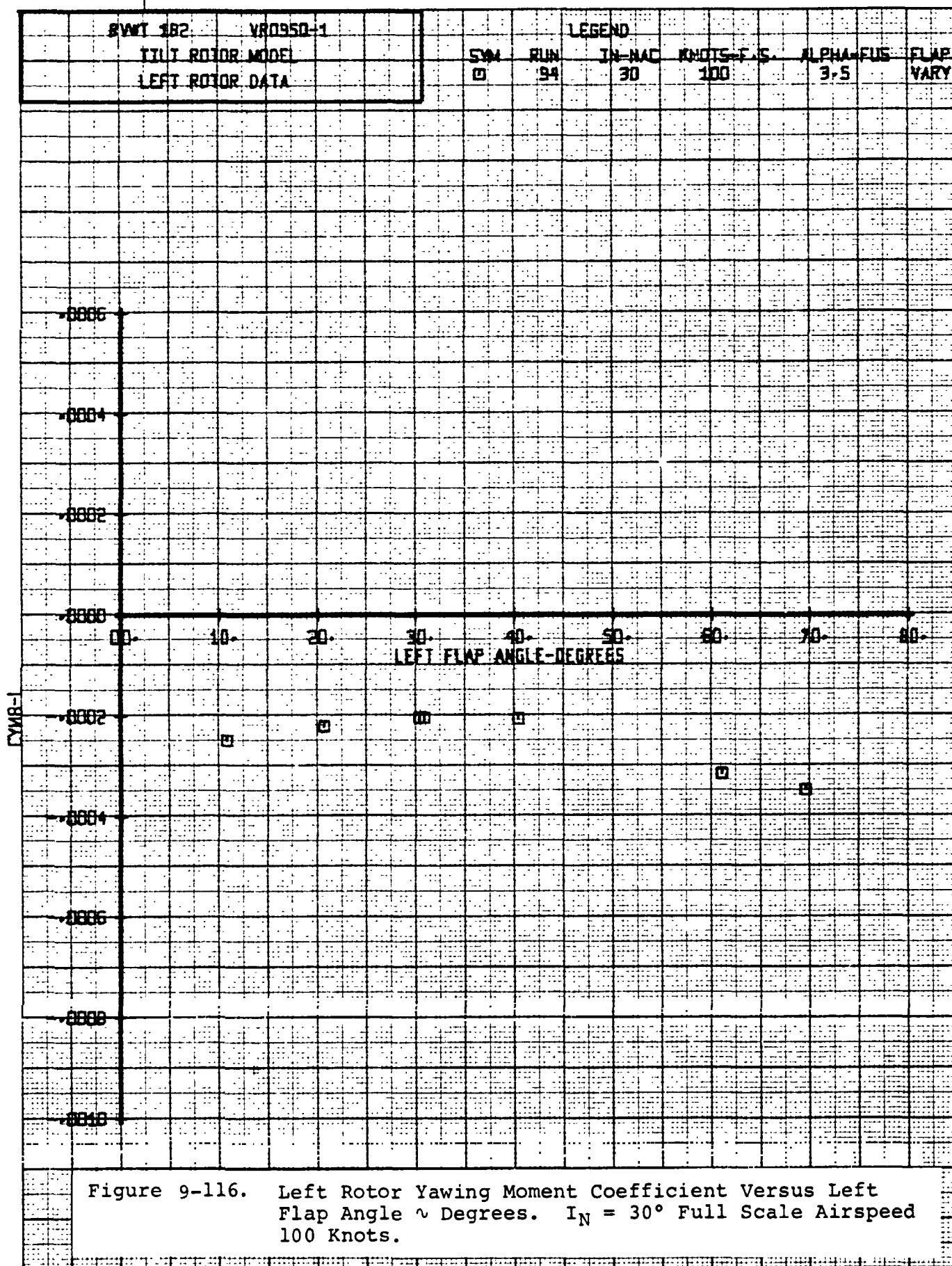






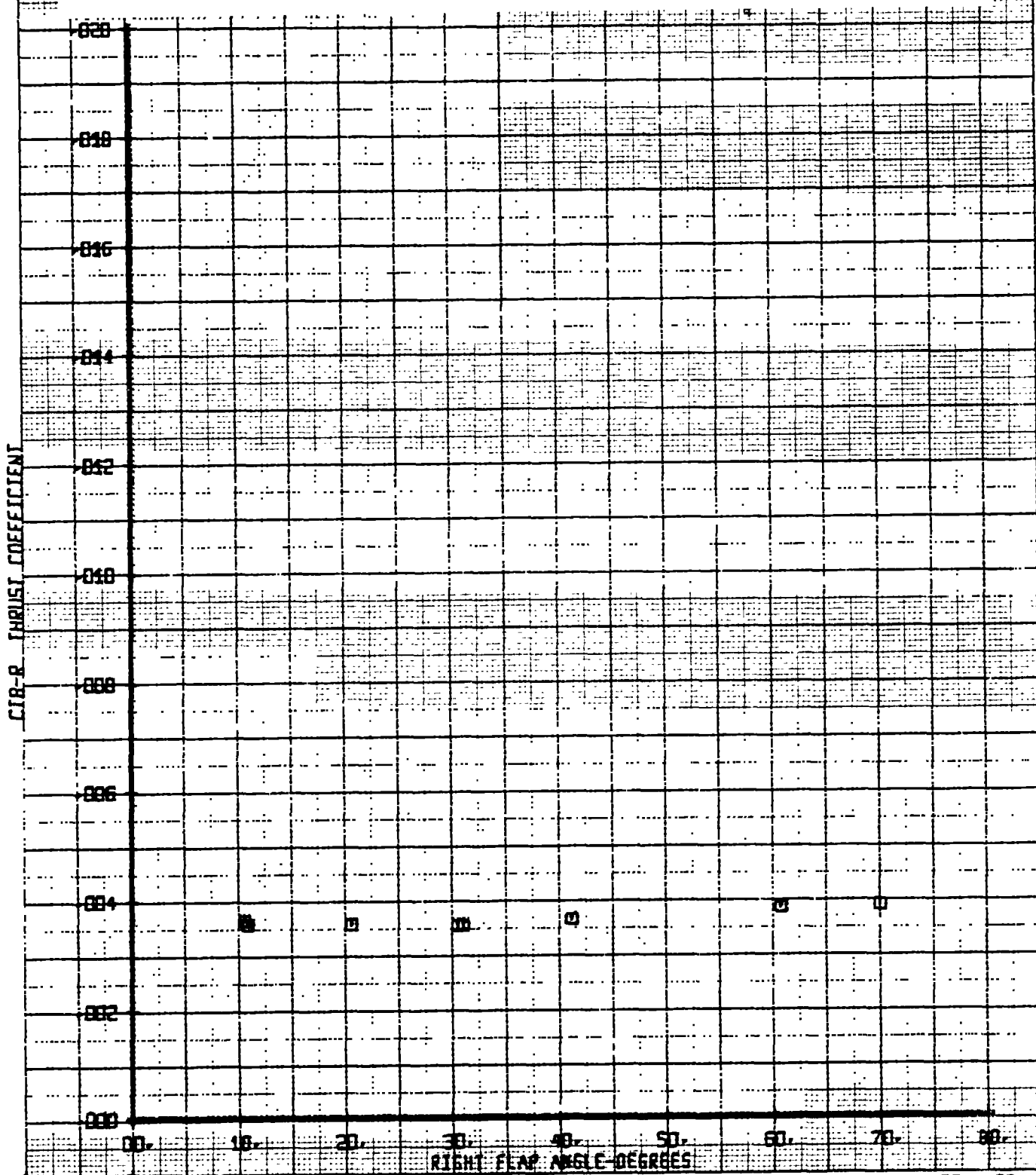






BVWT 182	VR095D-1	LEGEND							
LEFT ROTOR MODEL		SYM	RUN	IN-HAT	KNOTS-E.S.	ALPHA-EUS	FLAP		
RIGHT ROTOR DATA		0	94	90	100	9-5	VARY		

Figure 9-117. Right Rotor Thrust Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



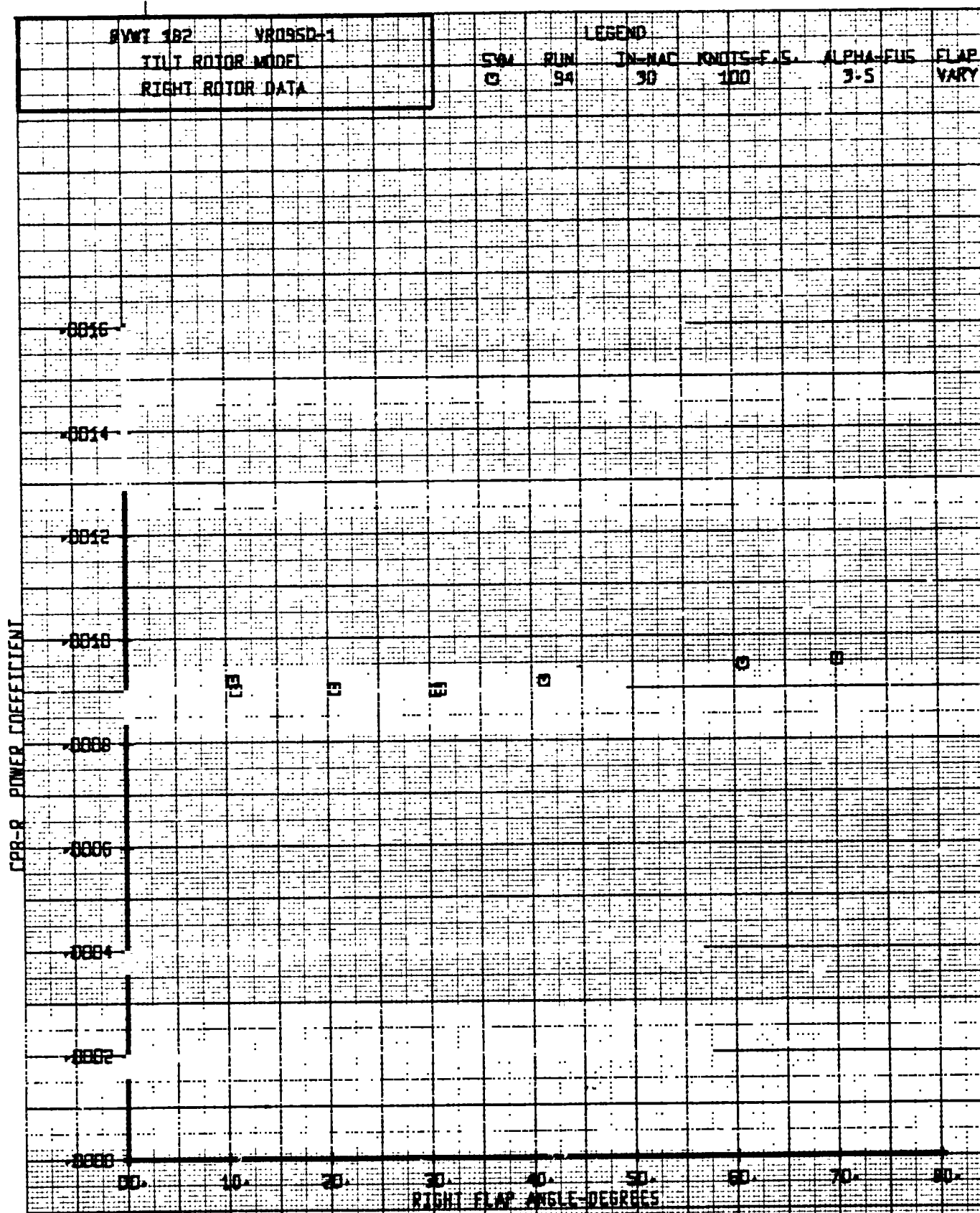
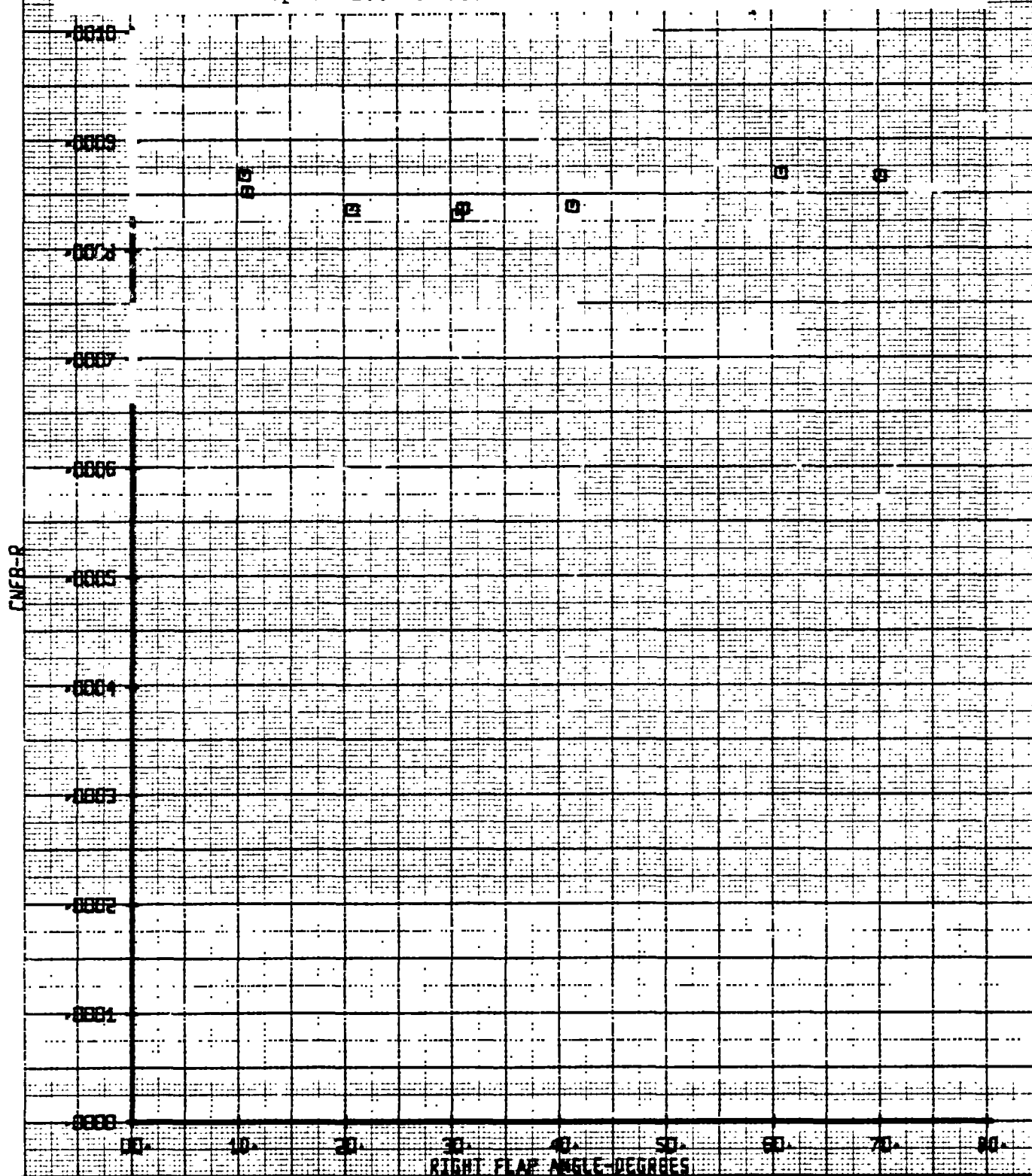


Figure 9-118. Right Rotor Power Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

BVWT 182	VR0950-1	LEGEND					
7711 ROTOR MODEL		SM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR DATA		0	94	30	100	3-5	VARY

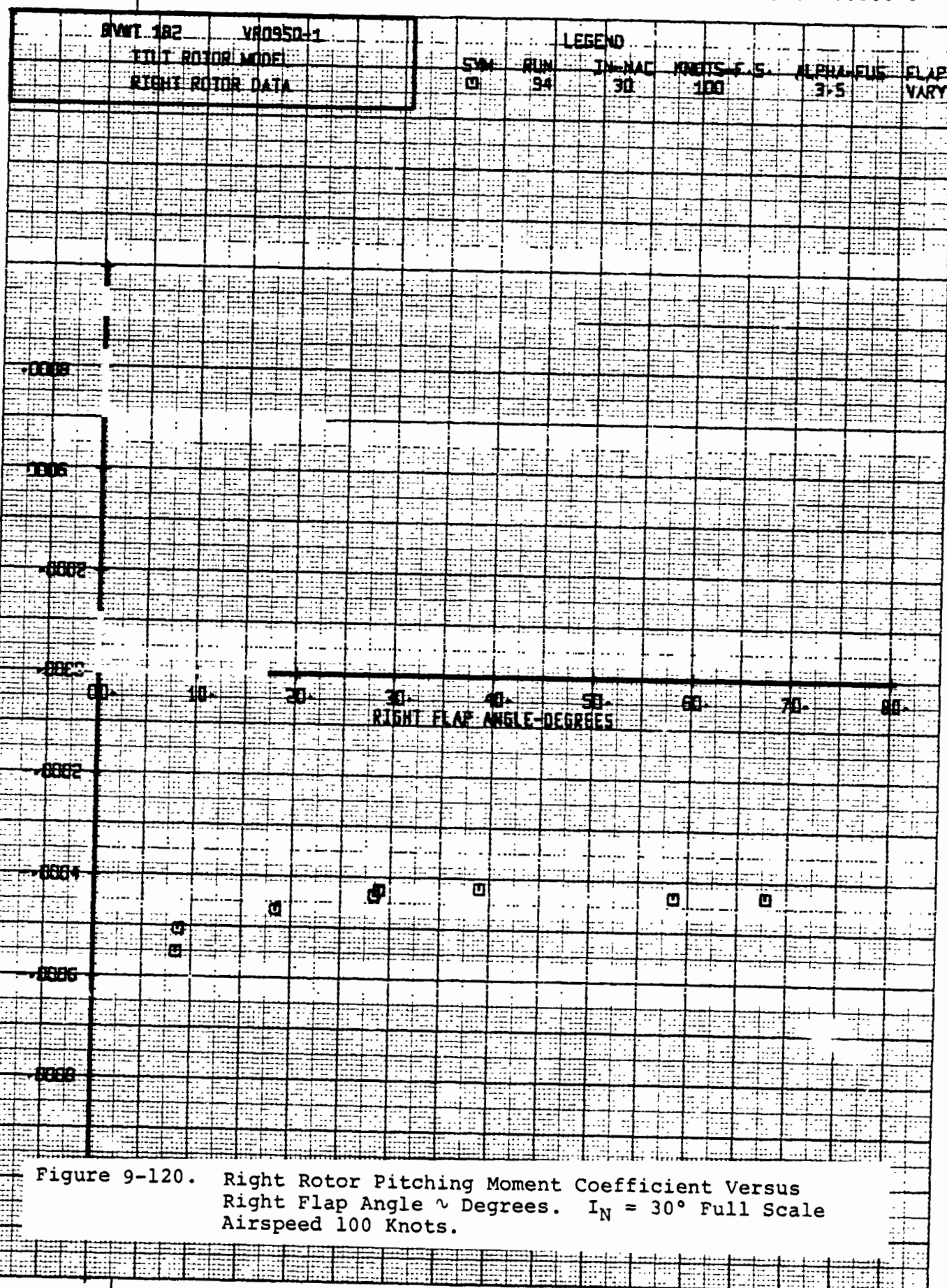
Figure 9-119. Right Rotor Normal Force Coefficient Versus Right Flap Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



D238-10000-3

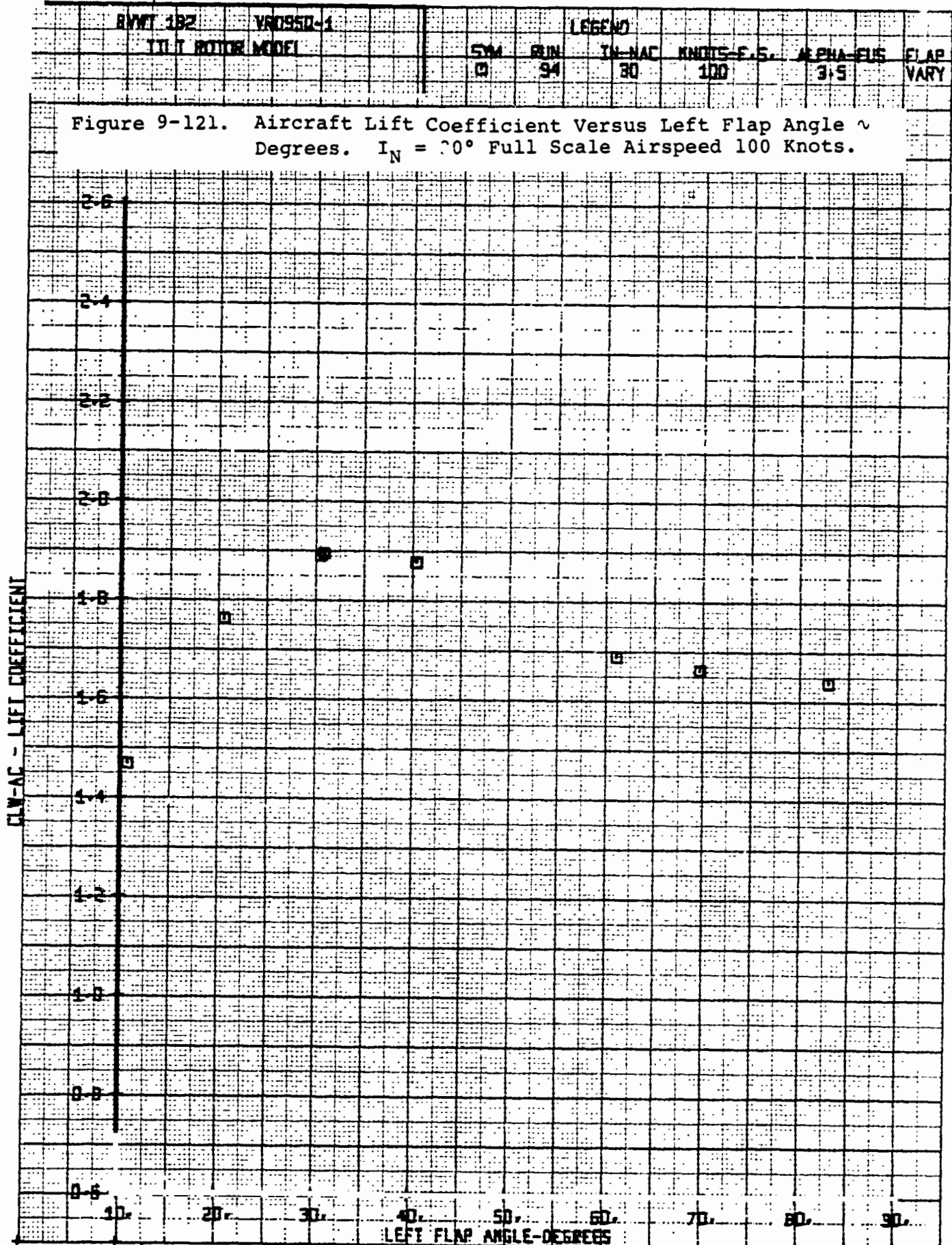
Data Deleted
Refer to Section 3.0

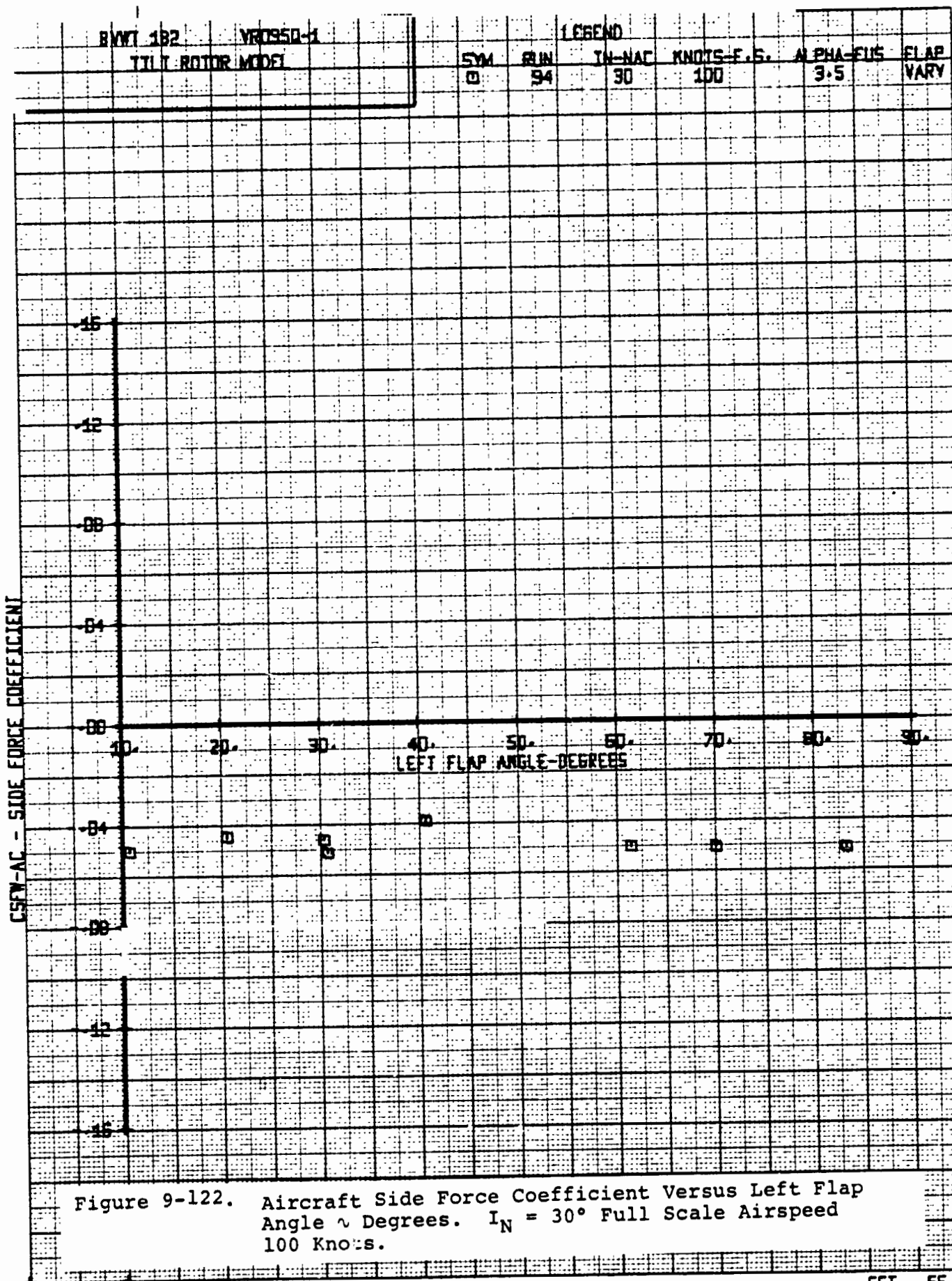
CPMB-R



D238-10000-3

Data Deleted
Refer to Section 3.0





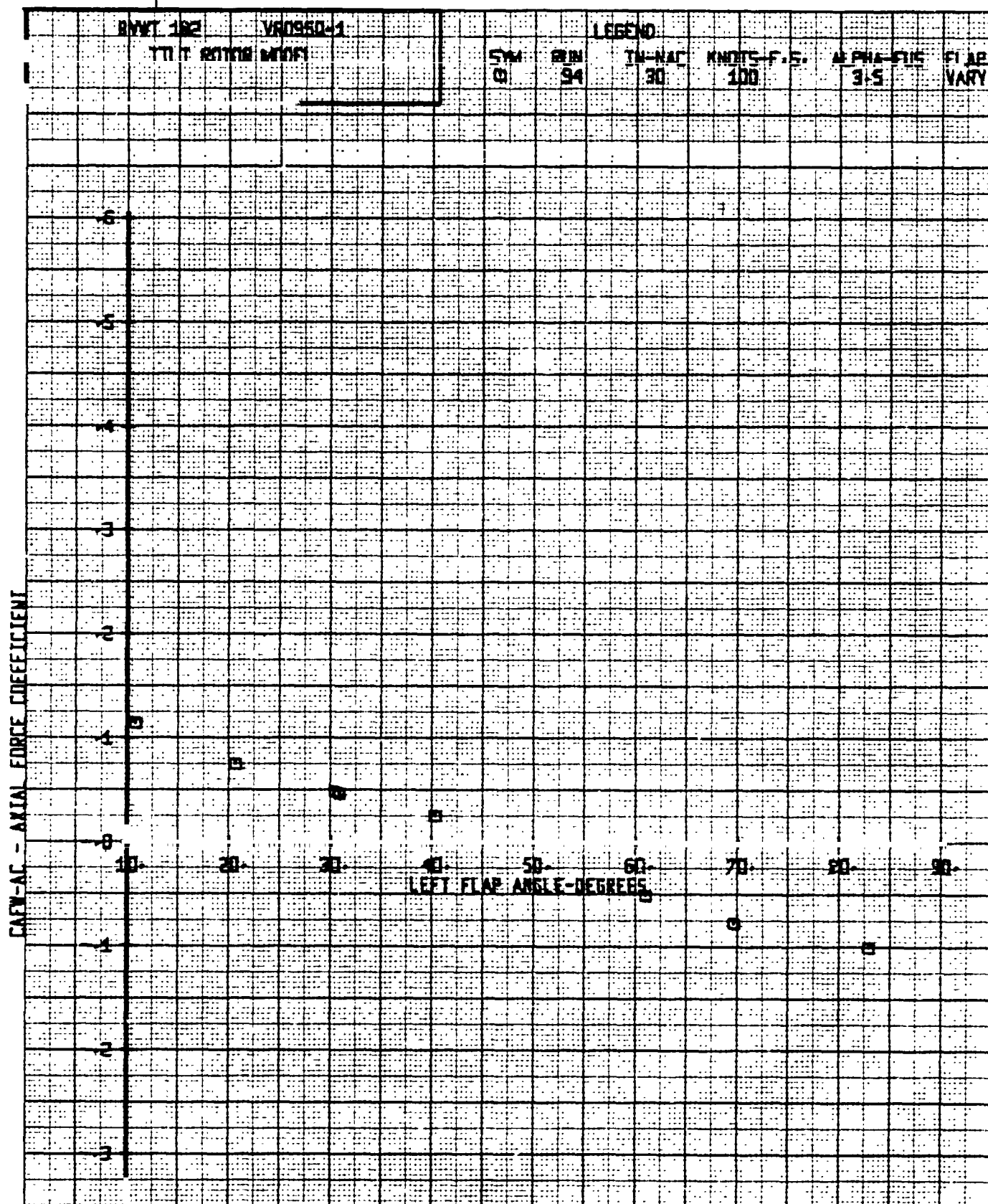
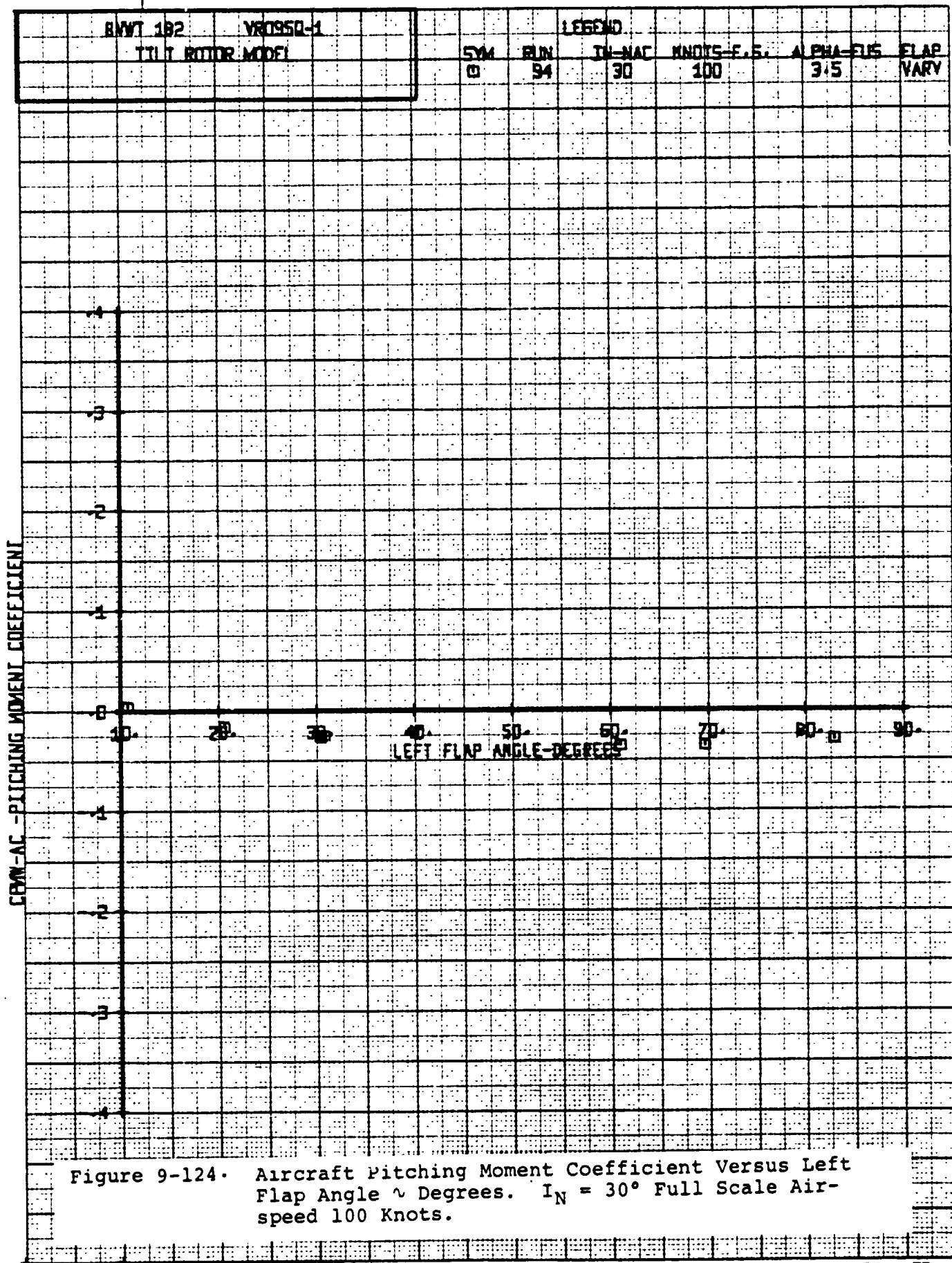


Figure 9-123. Aircraft Axial Force Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



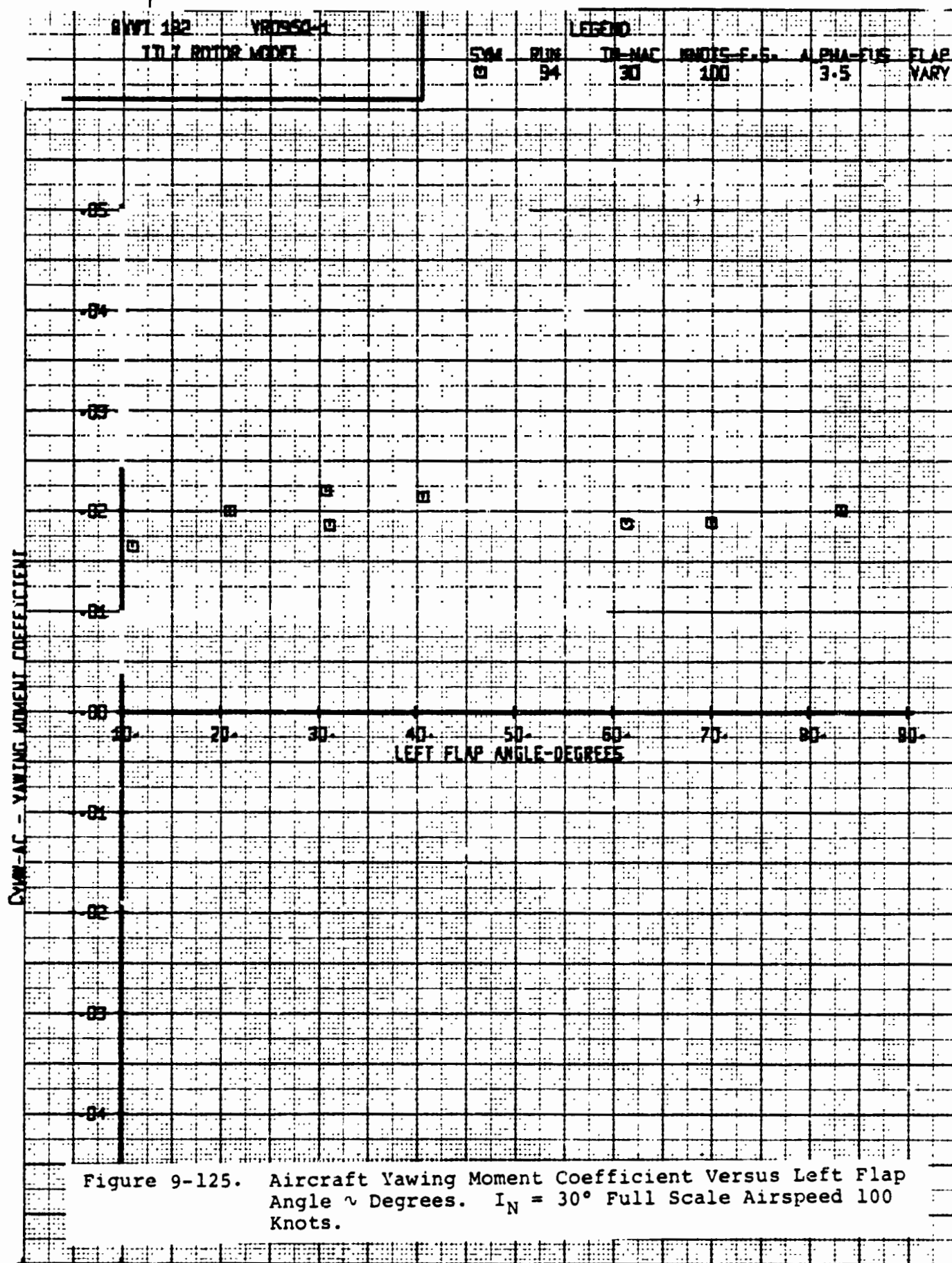
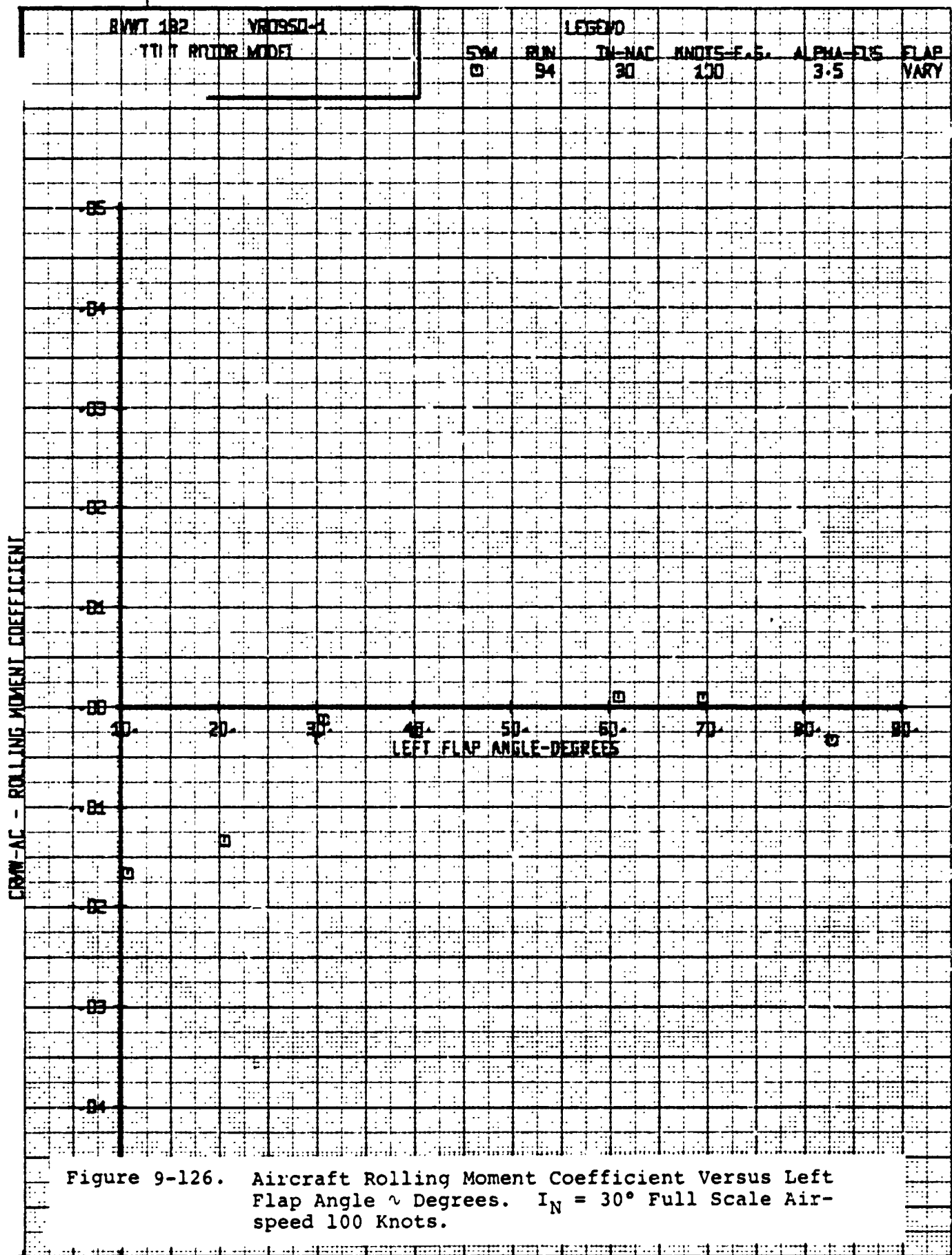


Figure 9-125. Aircraft Yawing Moment Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.



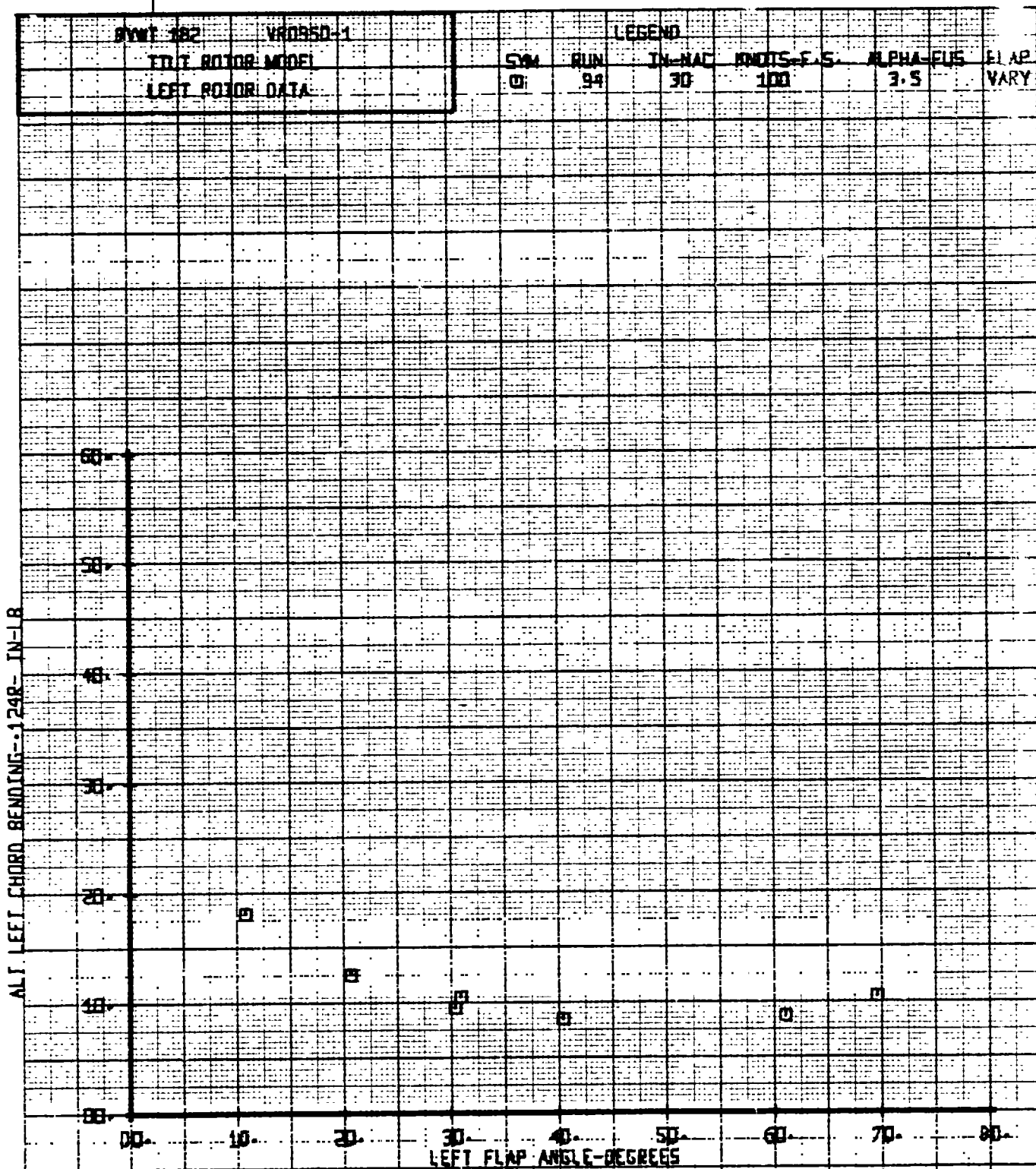
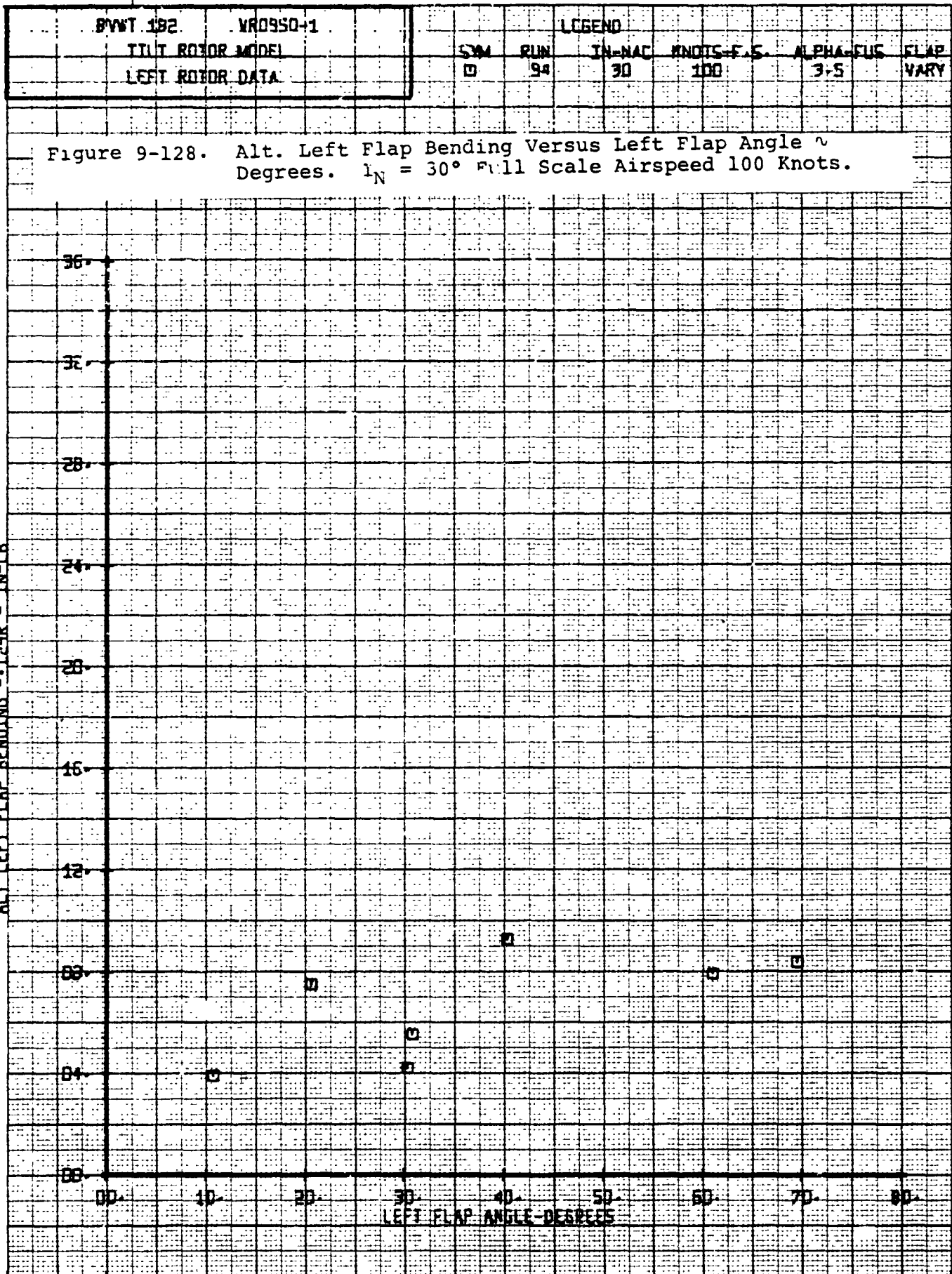
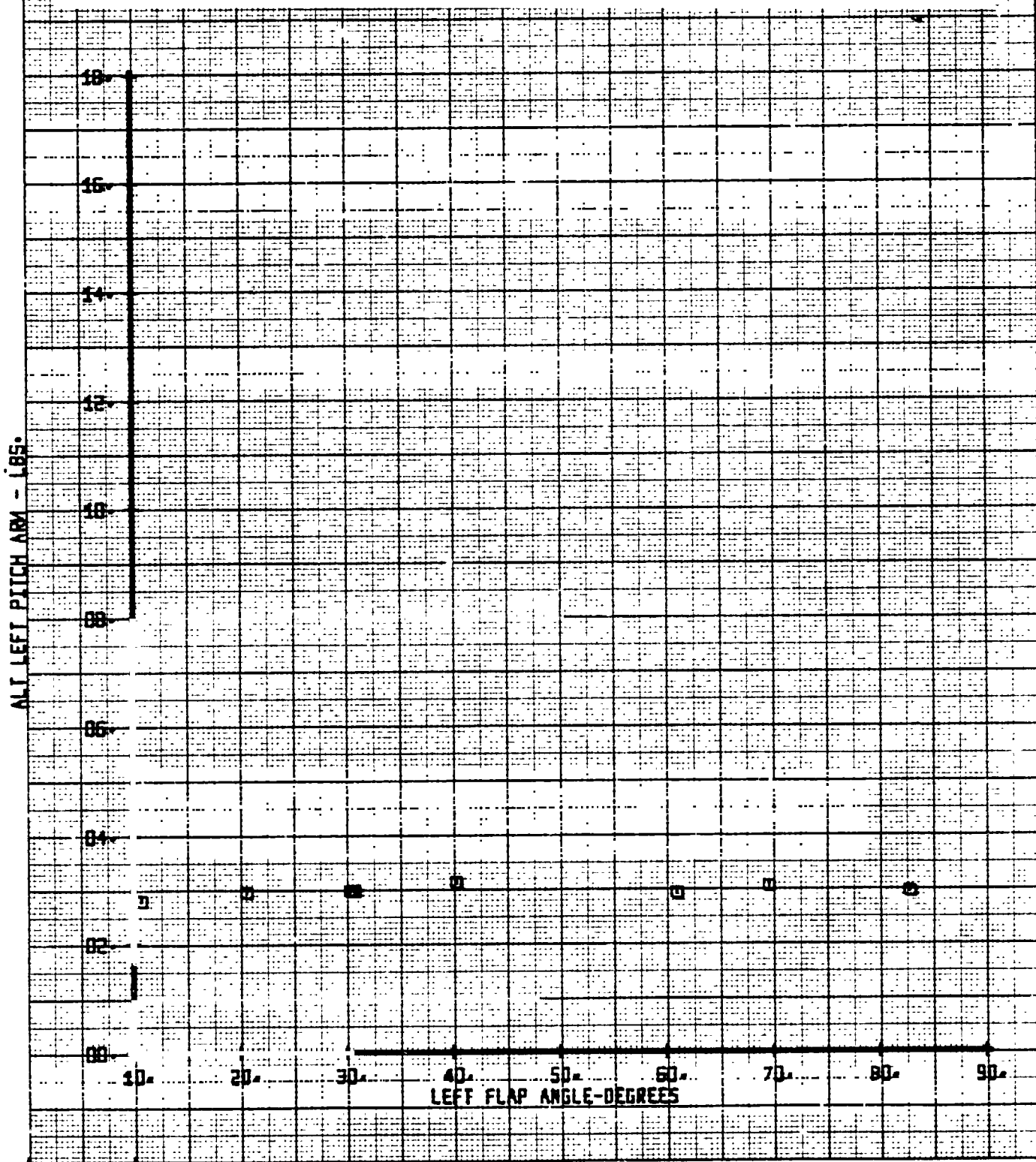


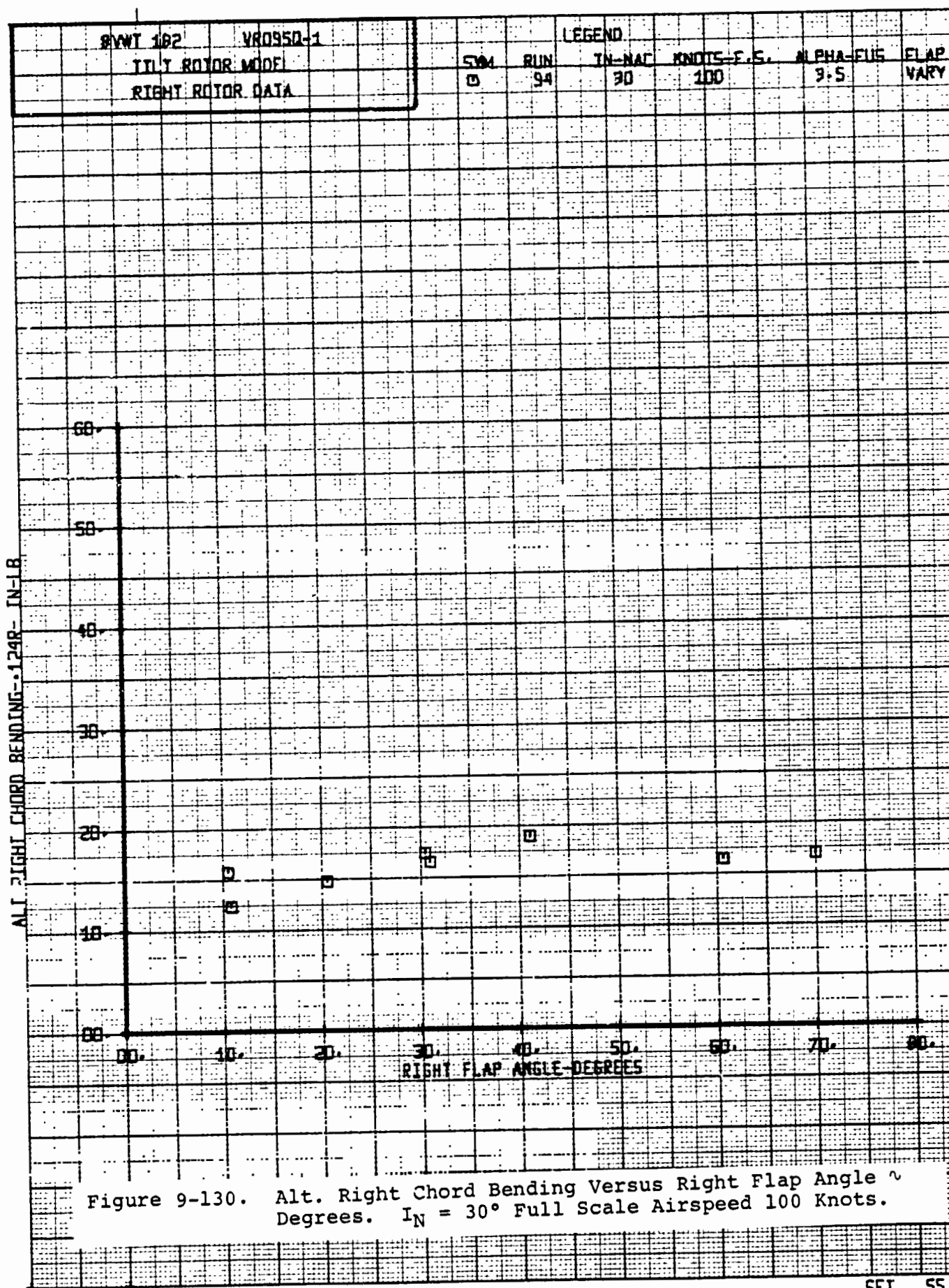
Figure 9-127. Alt. Left Chord Bending Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

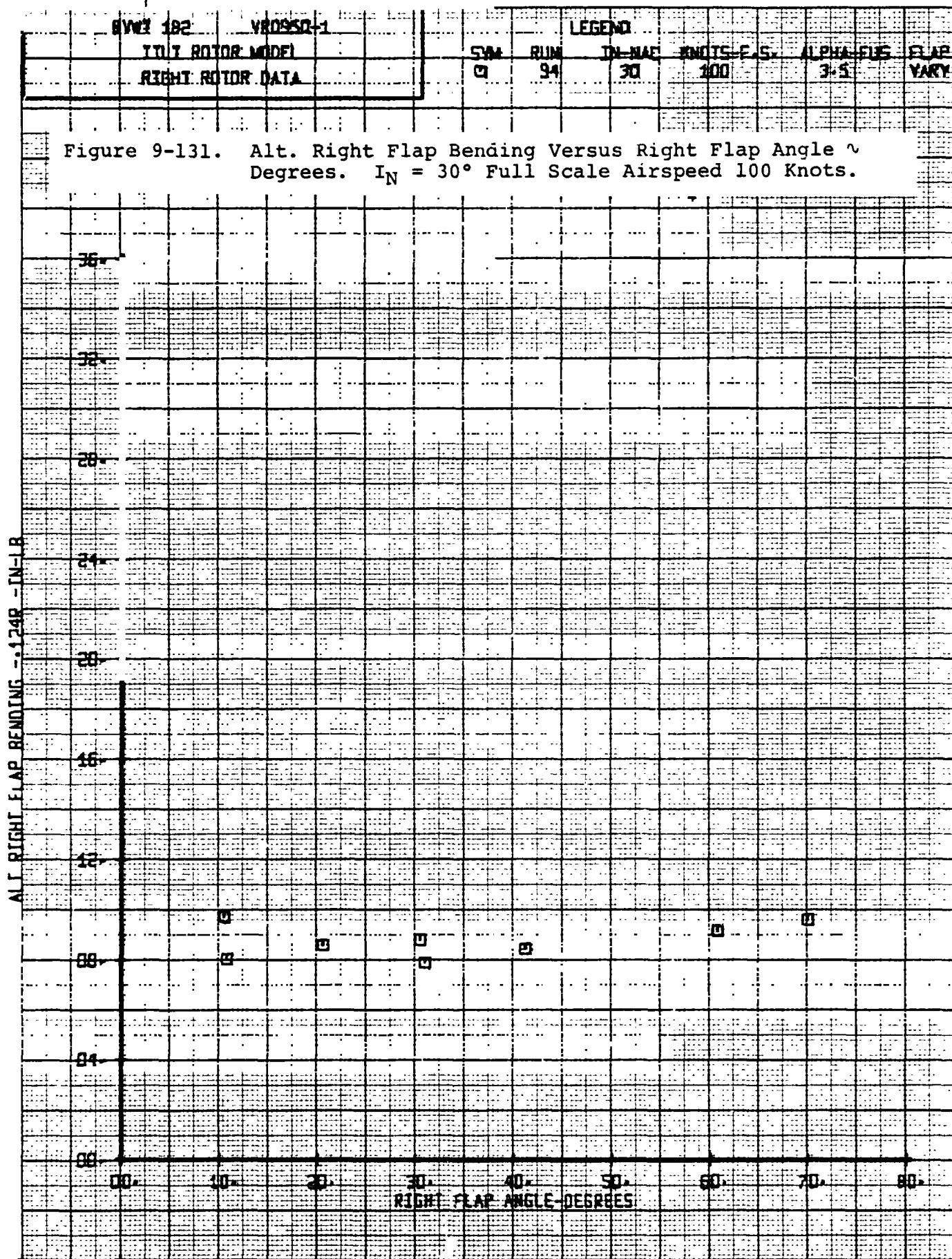


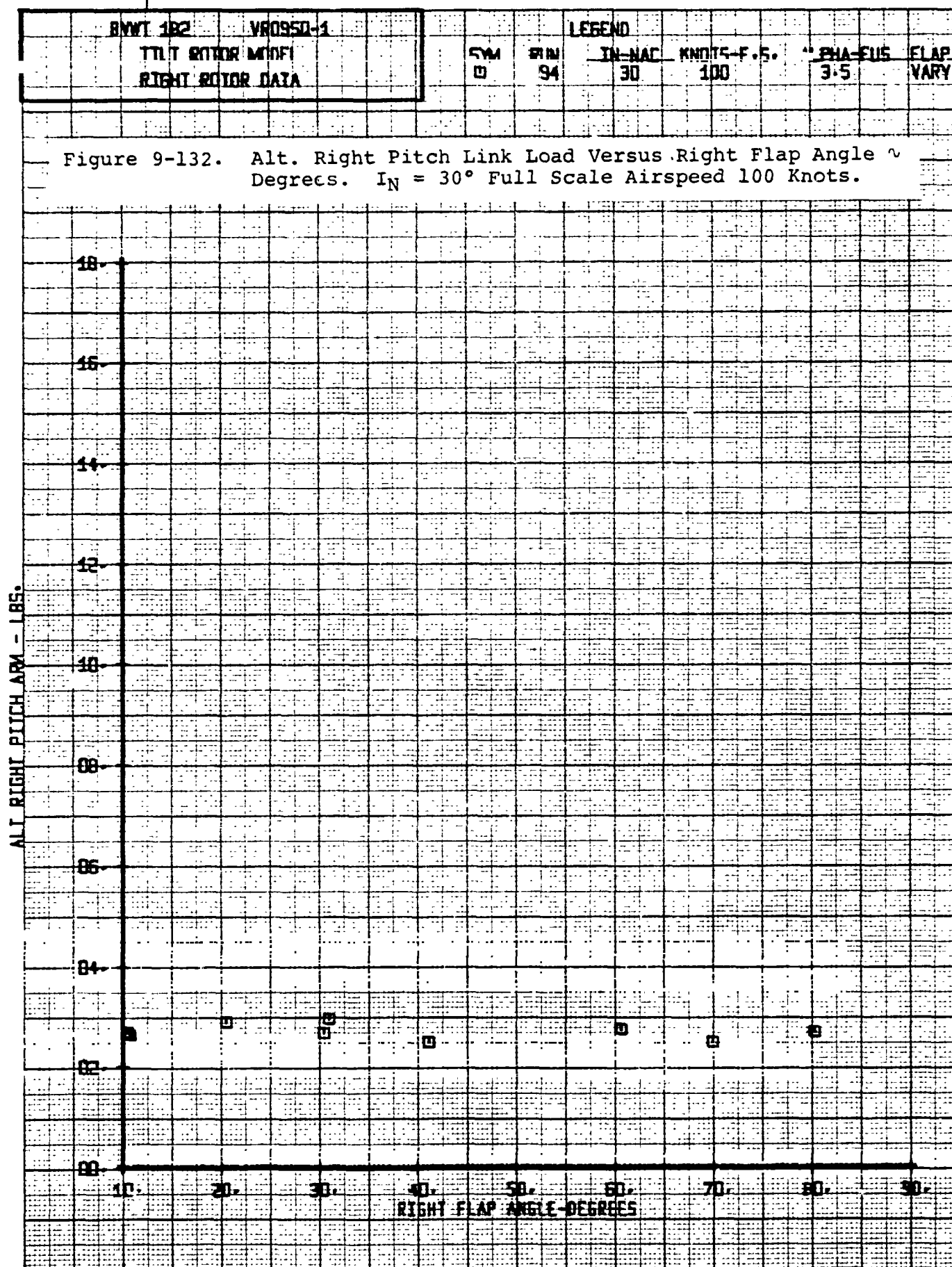
BVWT 182	VROSSO-1	LEGEND							
YLL ROTOR MODEL		S	RUN	TR-MAC	KNOTS-F.S.	ALPHA-FLY	FL		
LEFT ROTOR DATA		0	94	30	100	3.5	VARY		

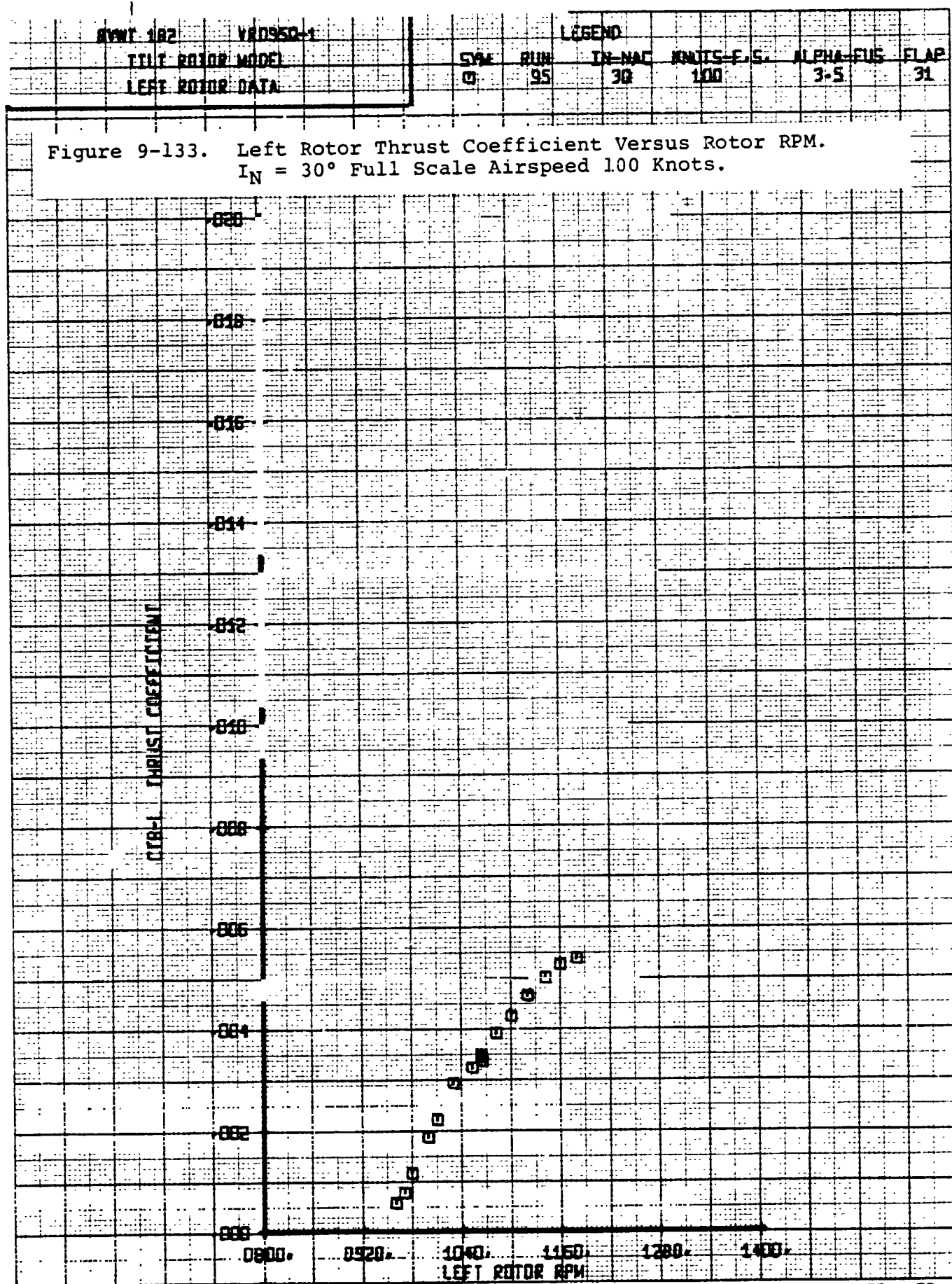
Figure 9-129. Alt. Left Pitch Link Load Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

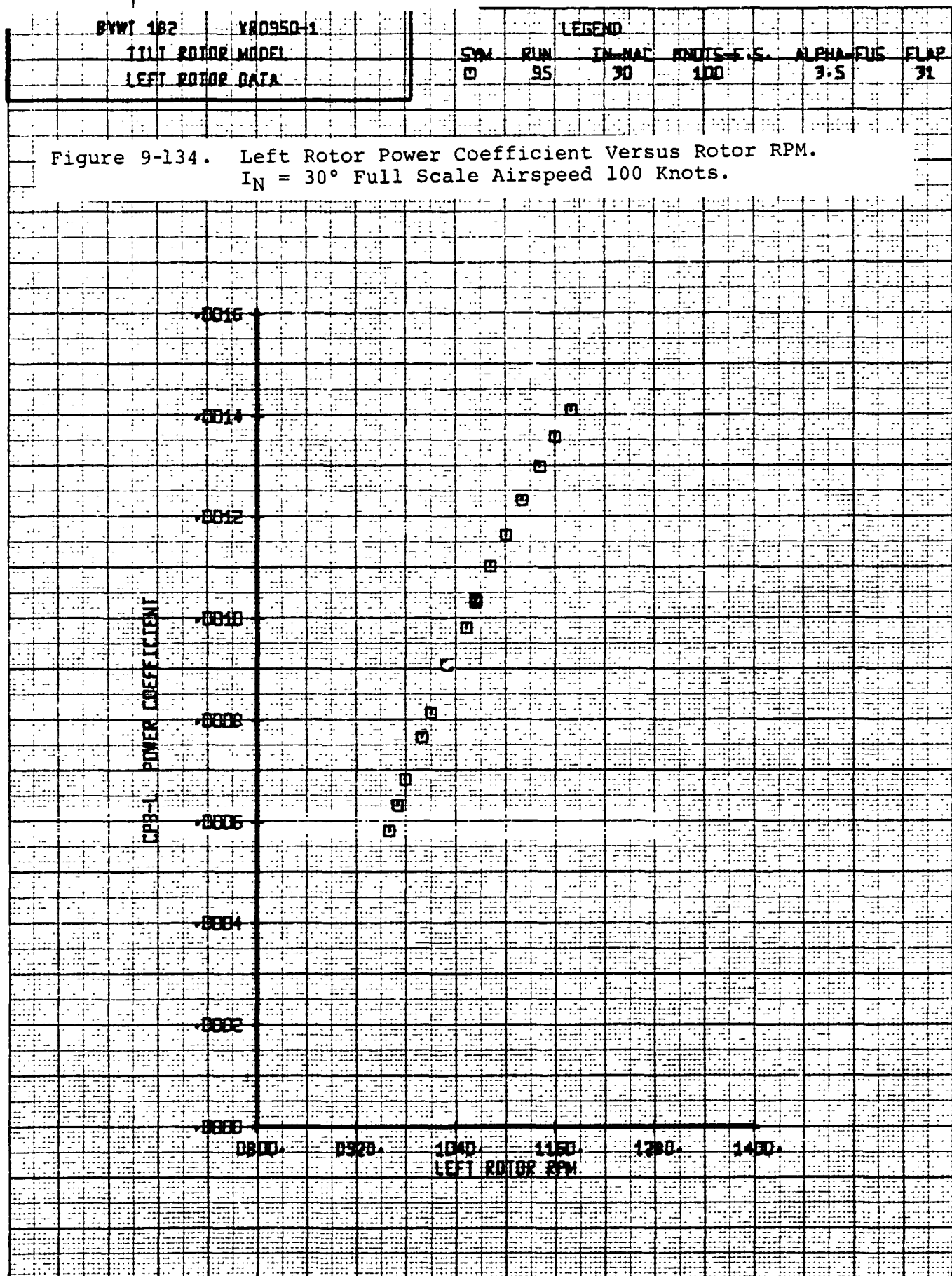






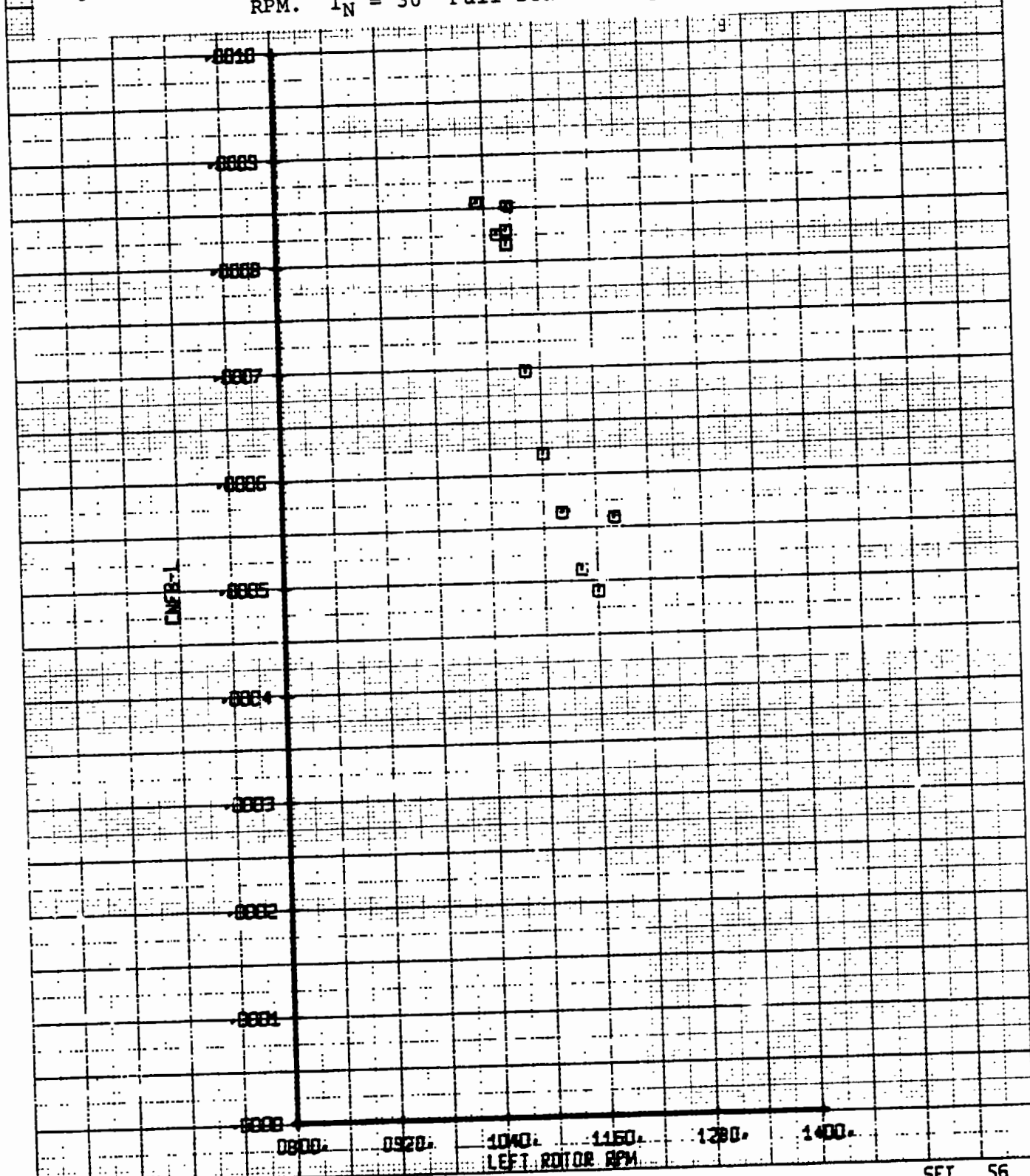


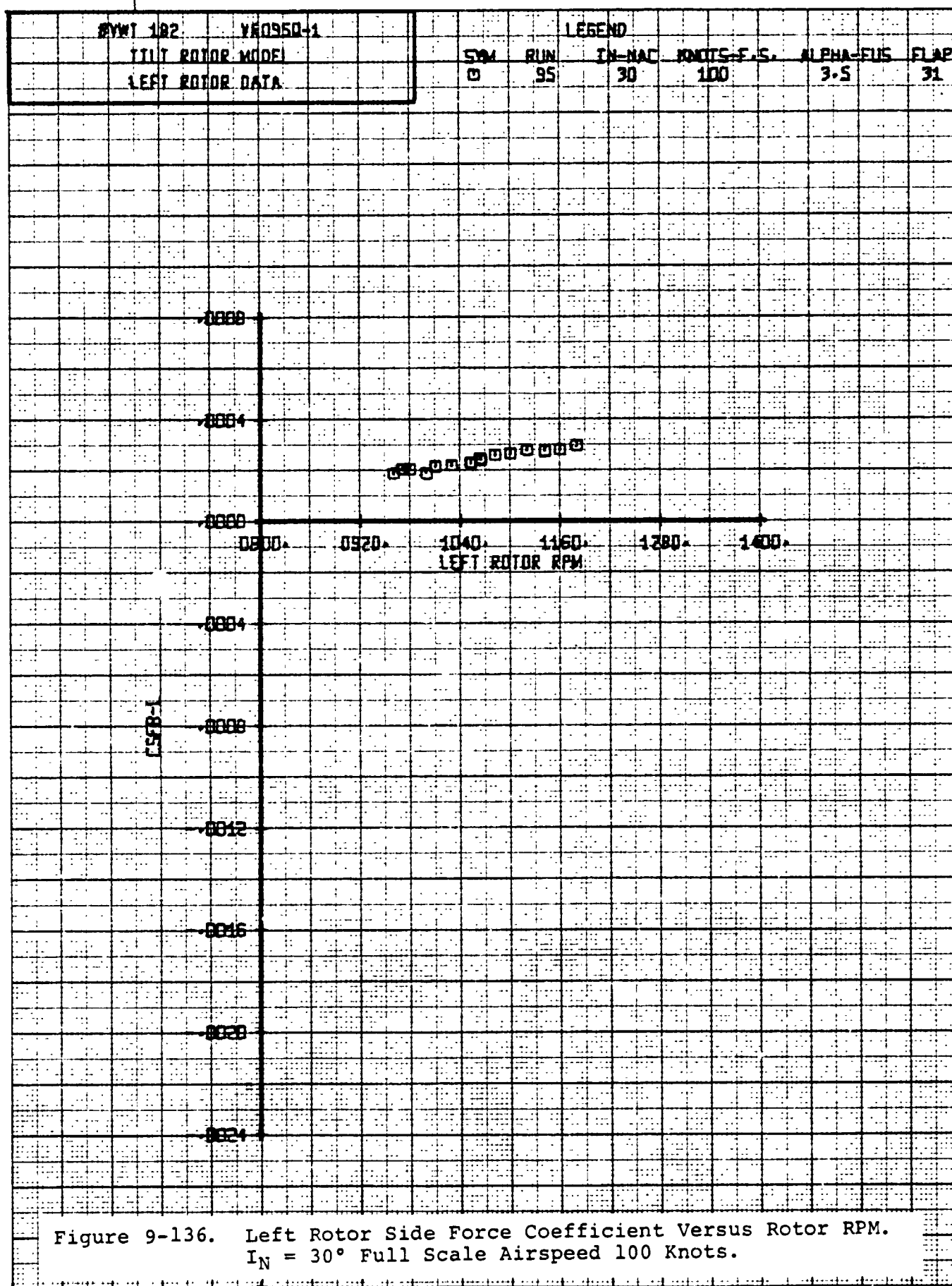


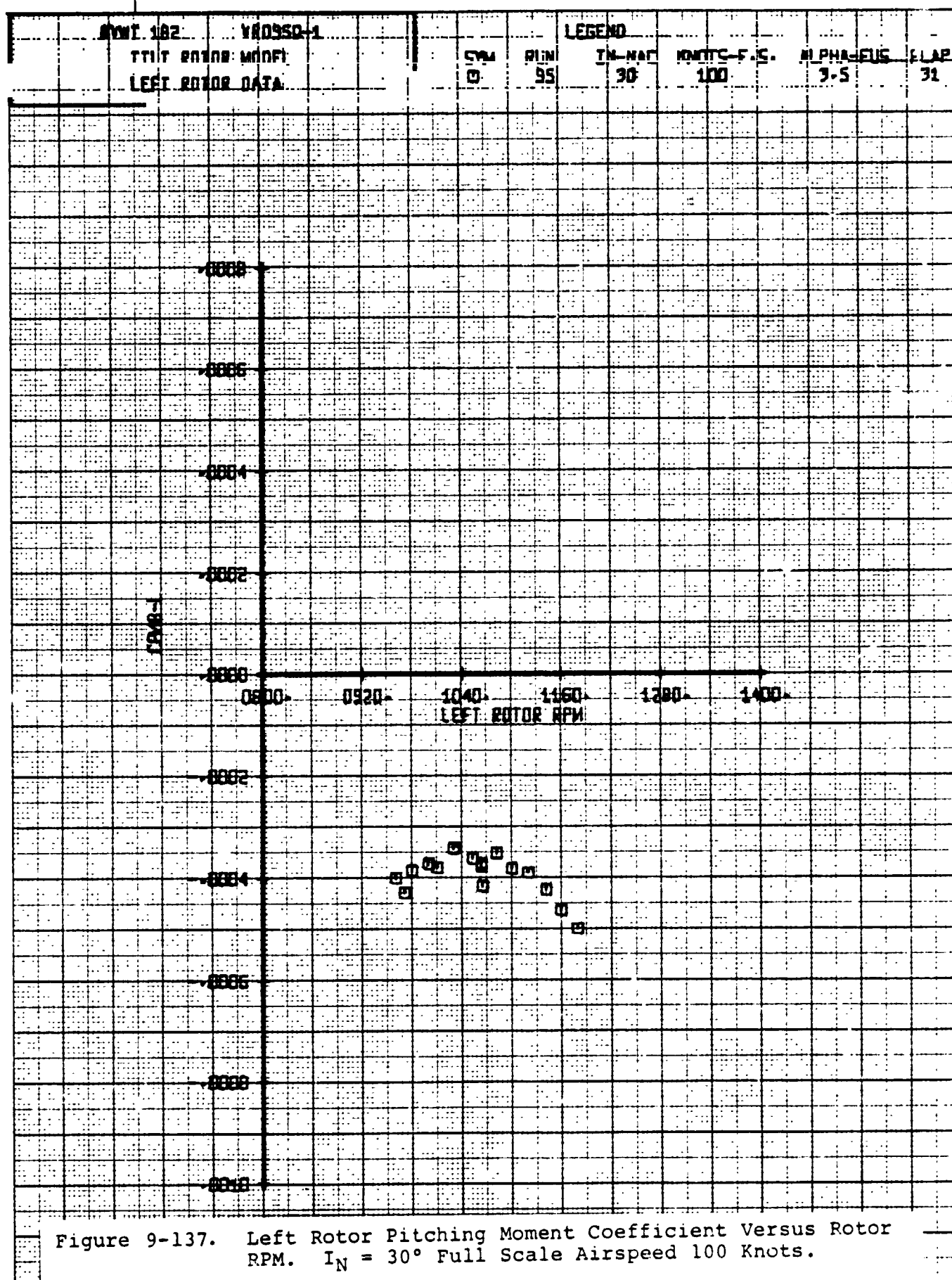


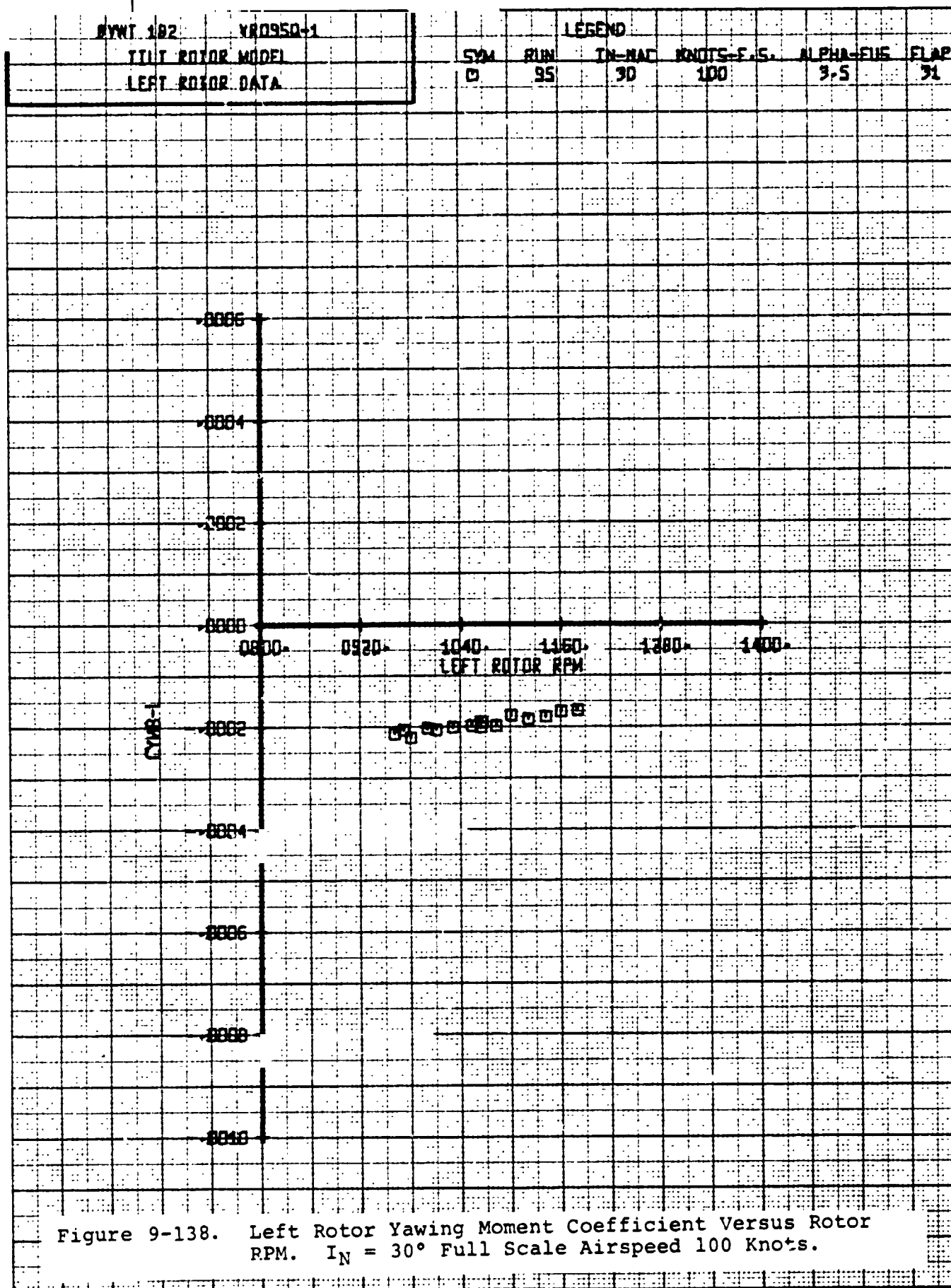
BVWT 182	YN0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS F.S.	ALPHA-FUS
LEFT ROTOR DATA		D	95	30	100	3.5
						FLAP 31

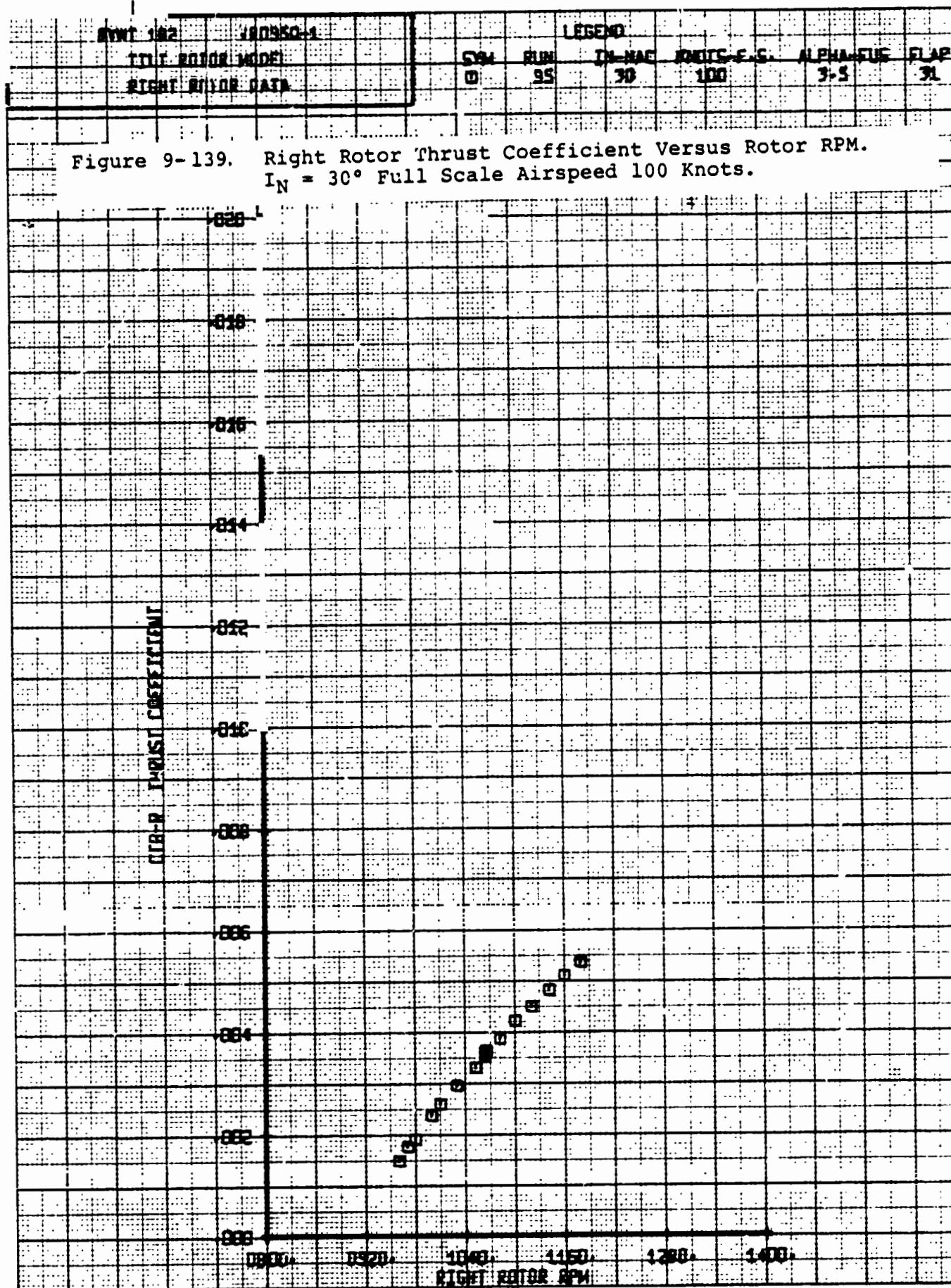
Figure 9-135. Left Rotor Normal Force Coefficient Versus Rotor RPM. $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

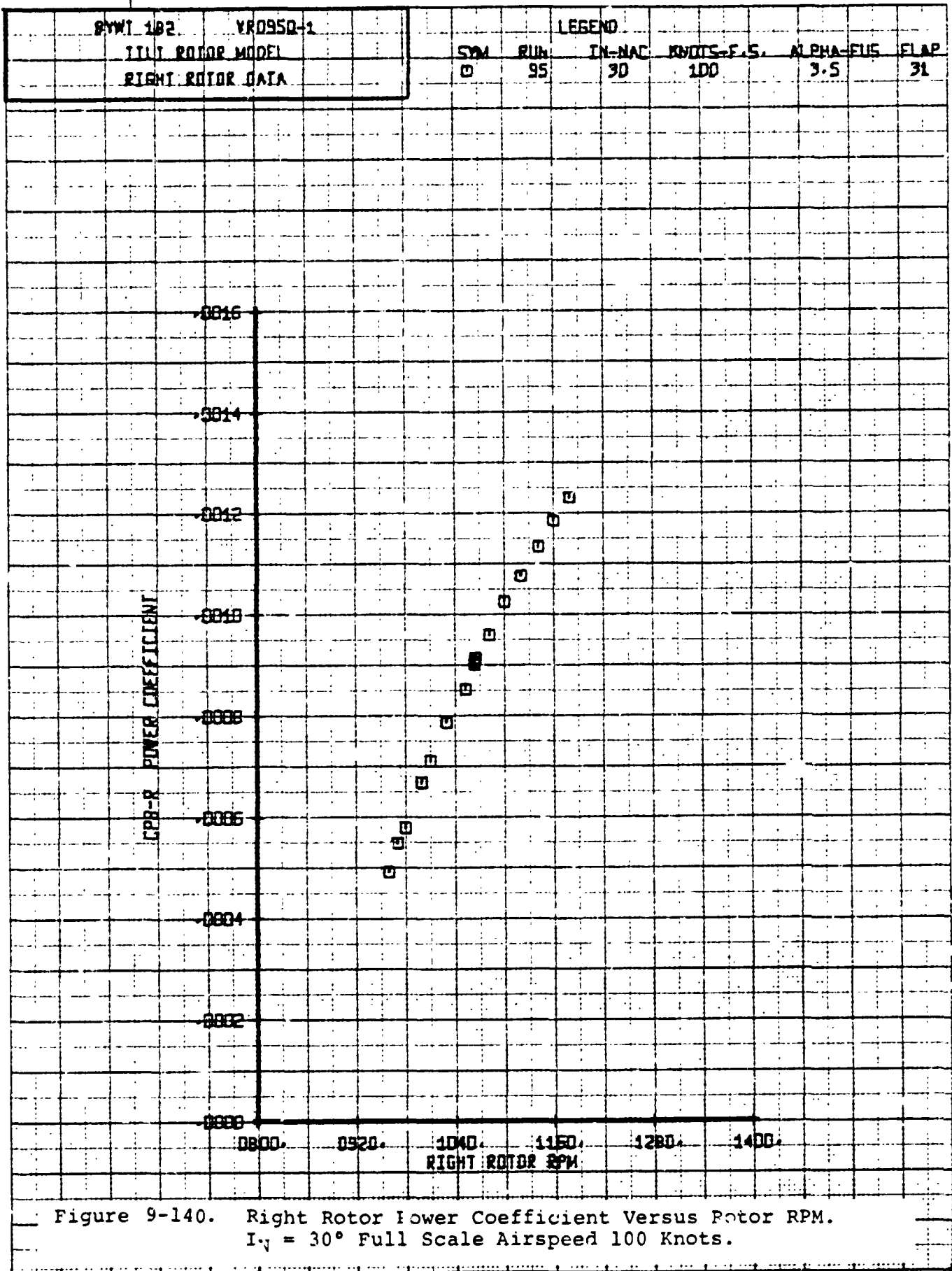


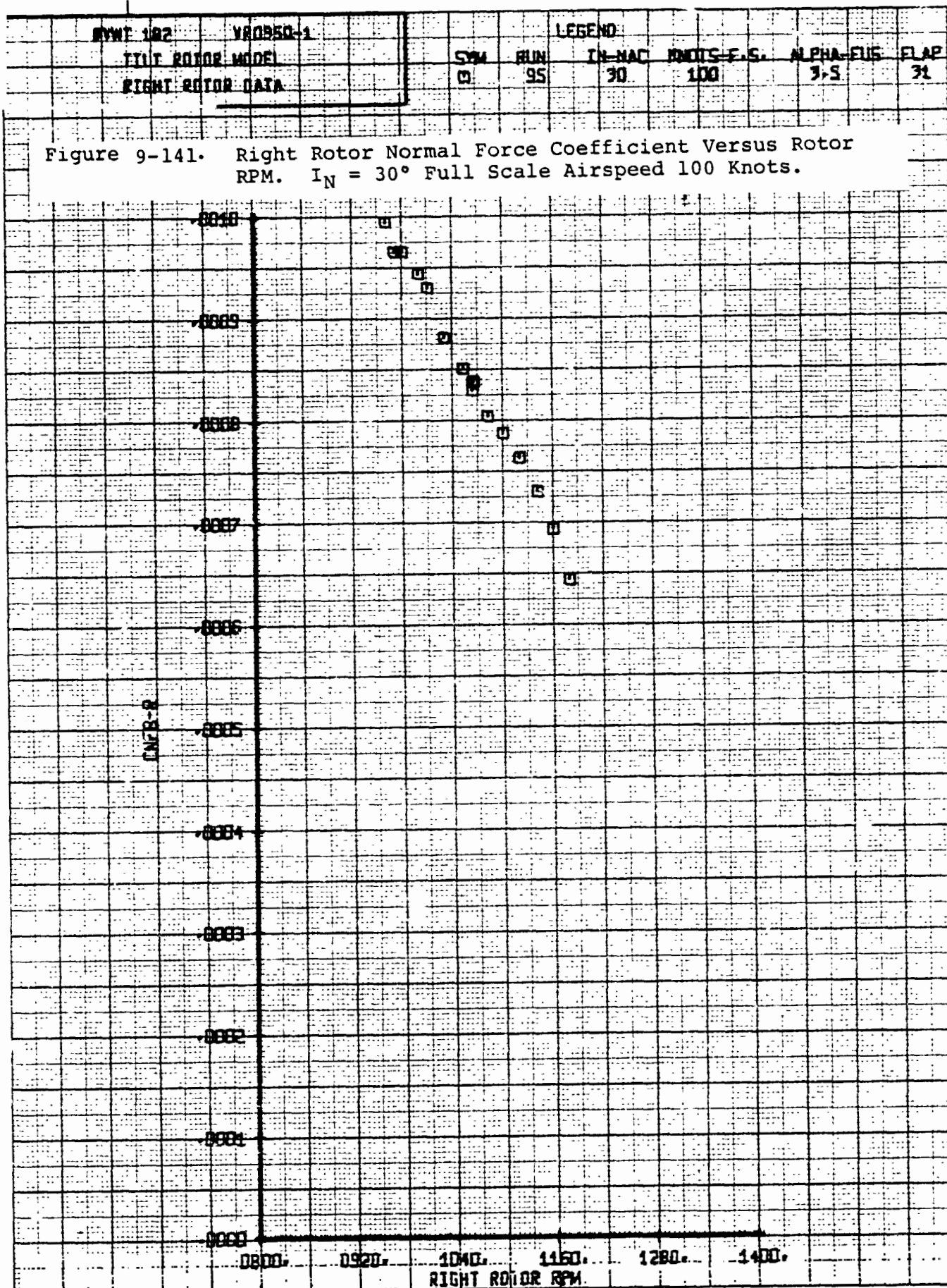




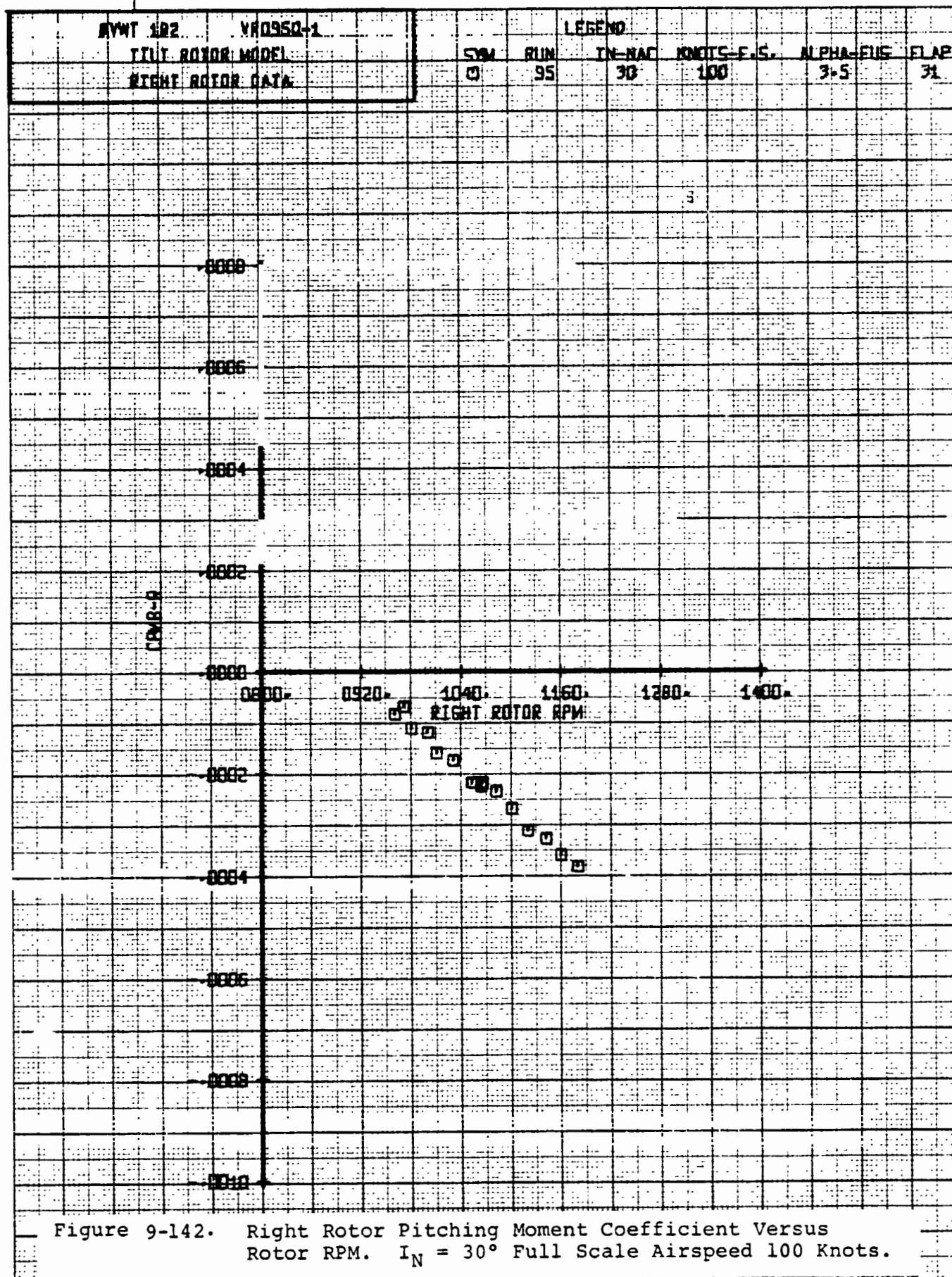




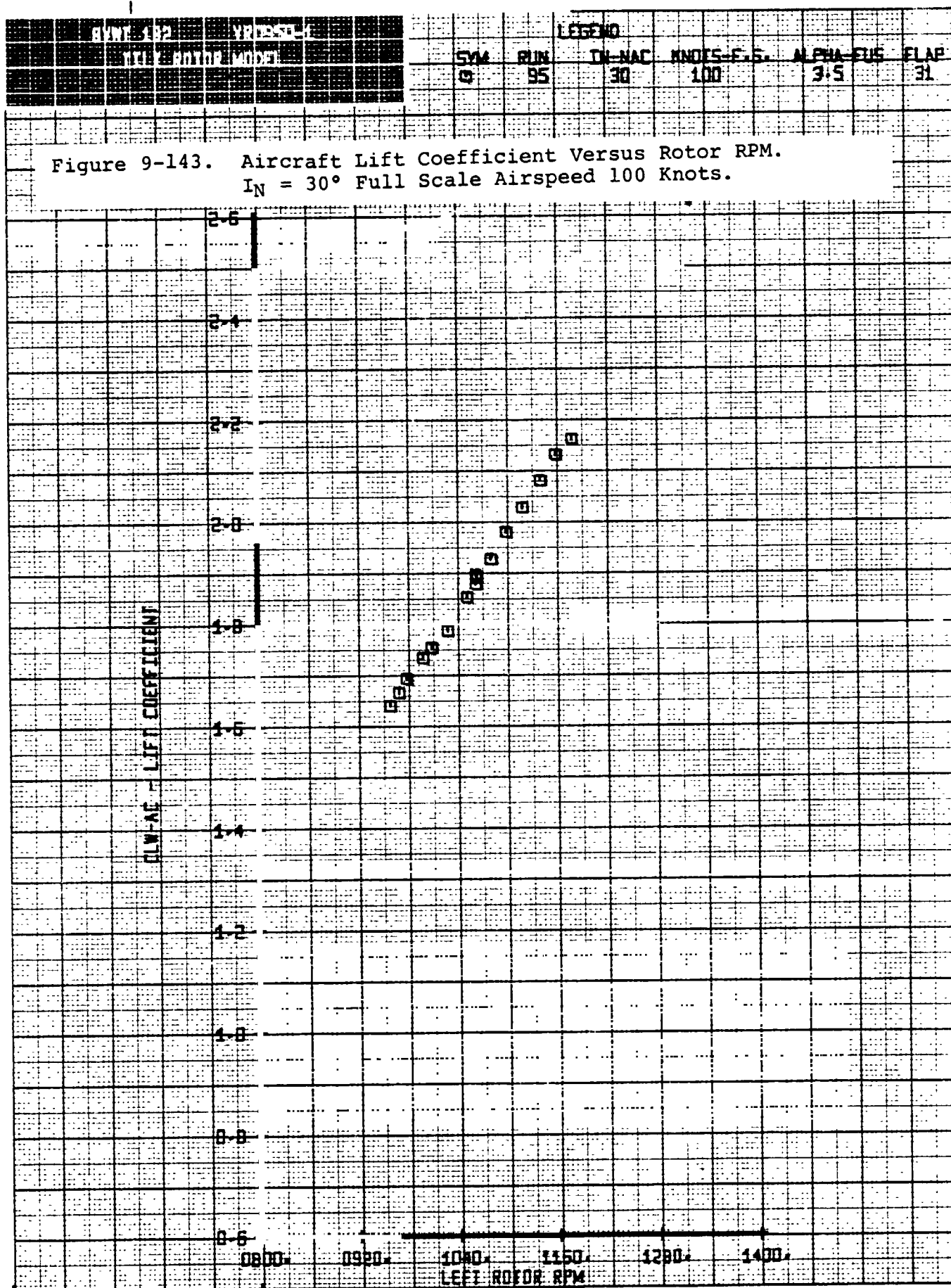


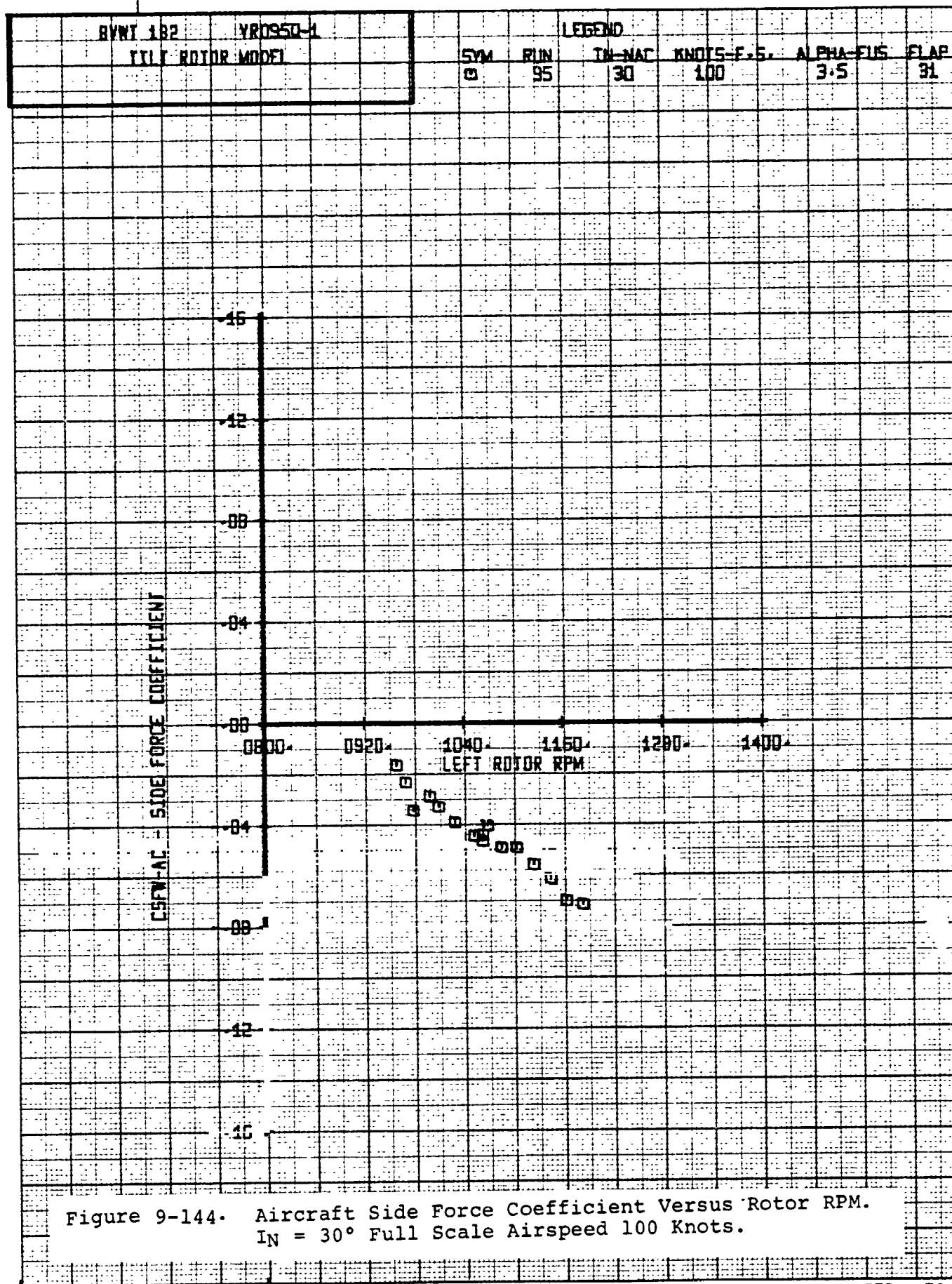


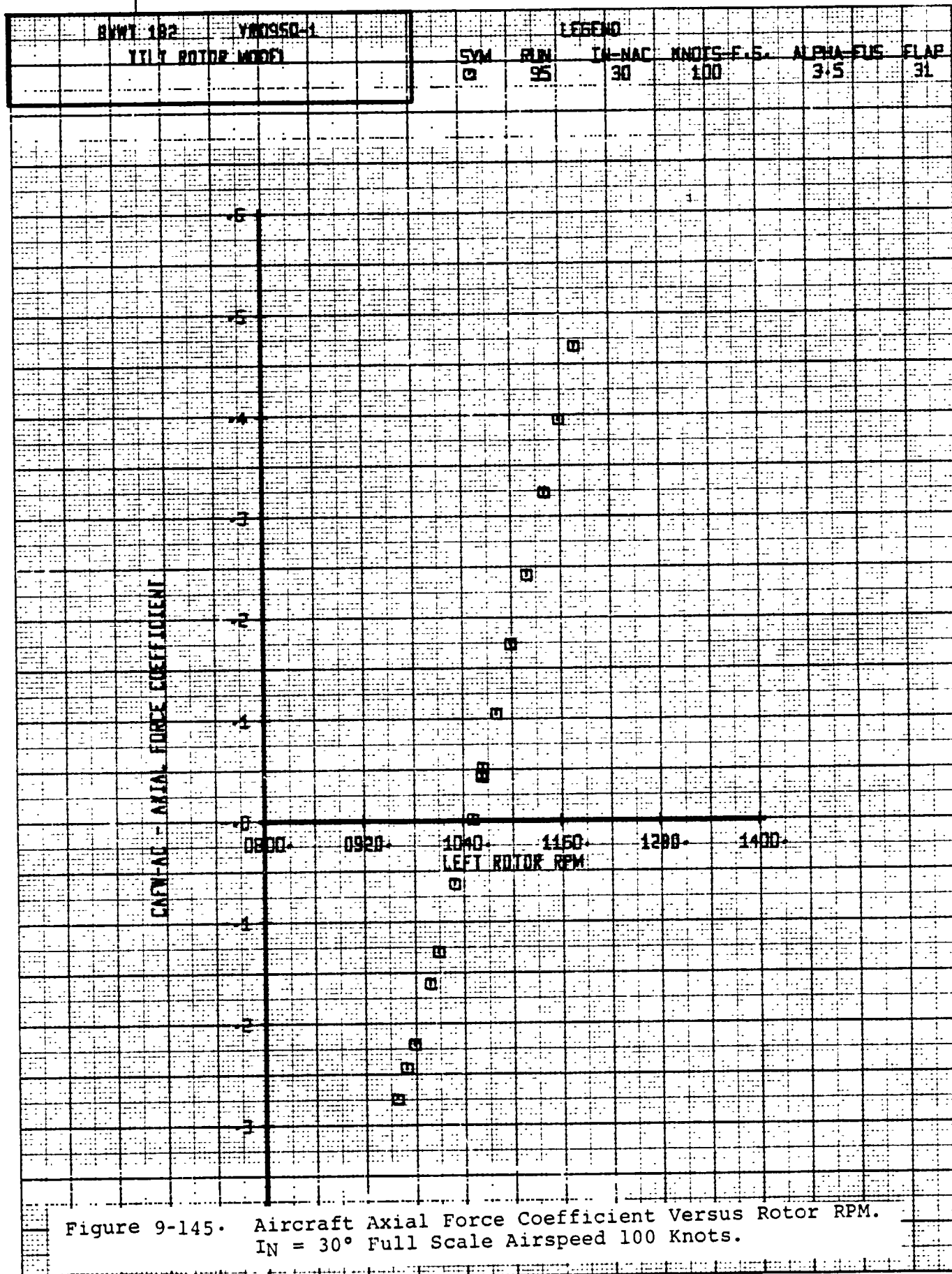
Data Deleted
Refer to Section 3.0

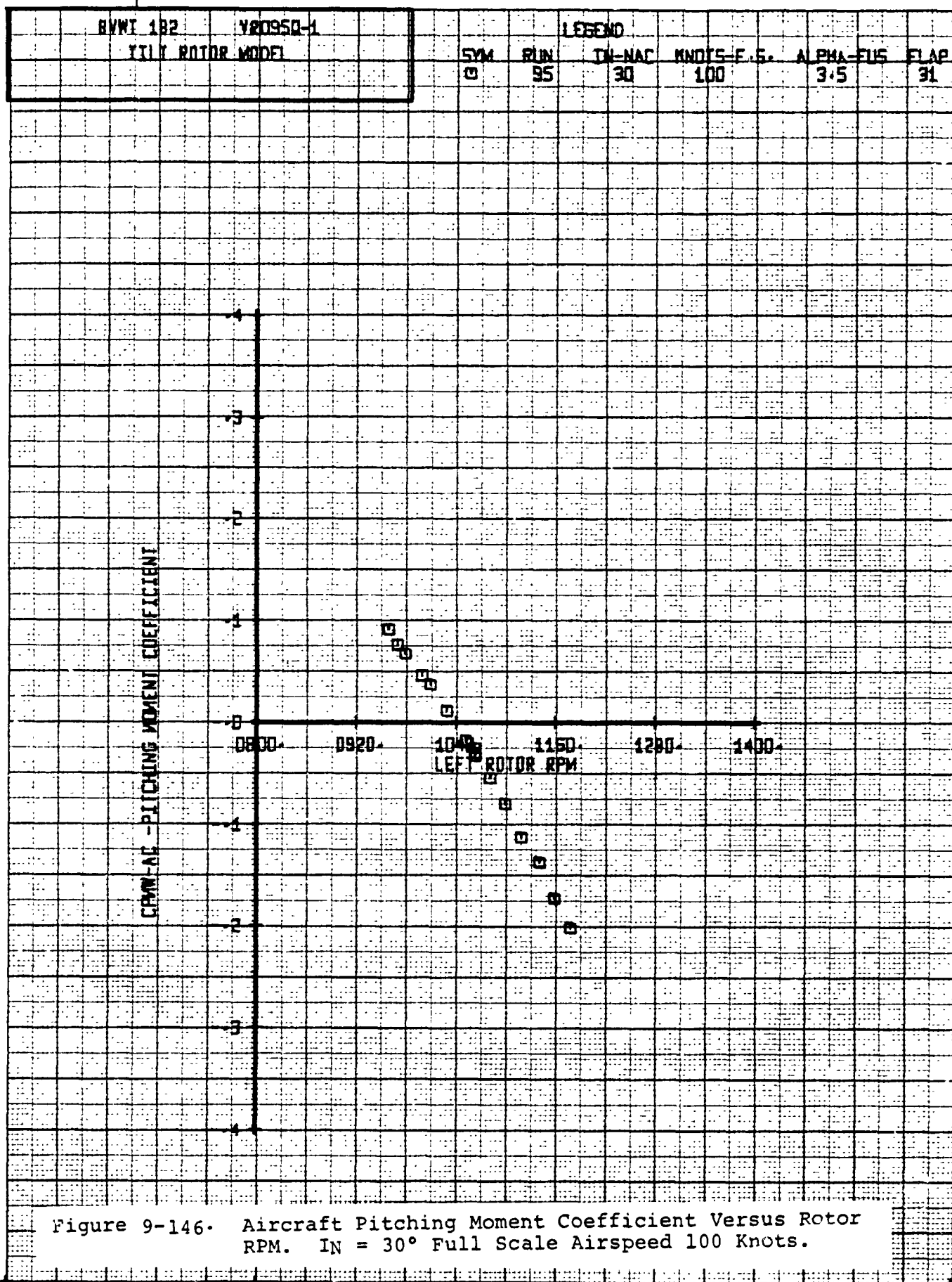


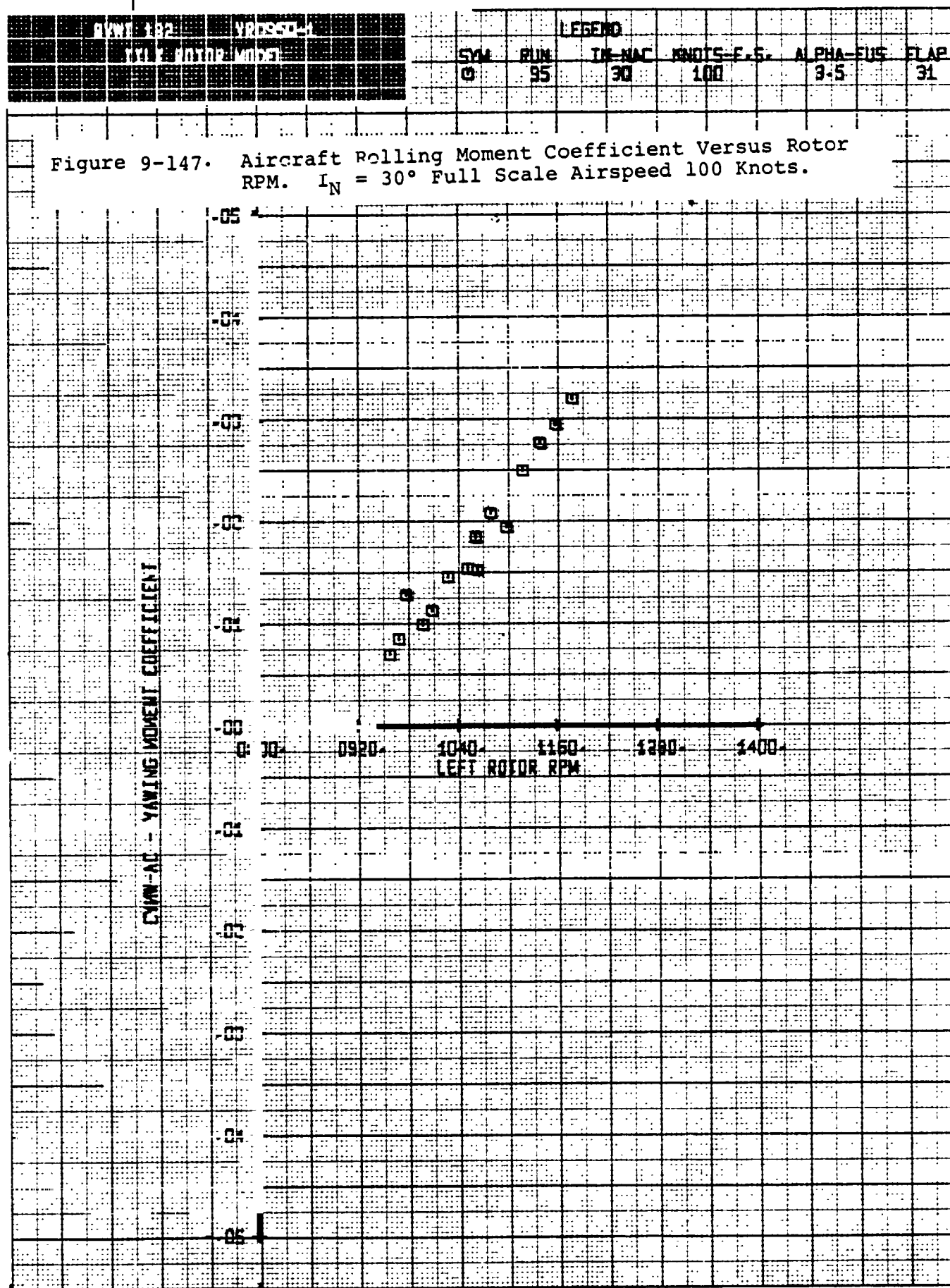
Data Deleted
Refer to Section 3.0

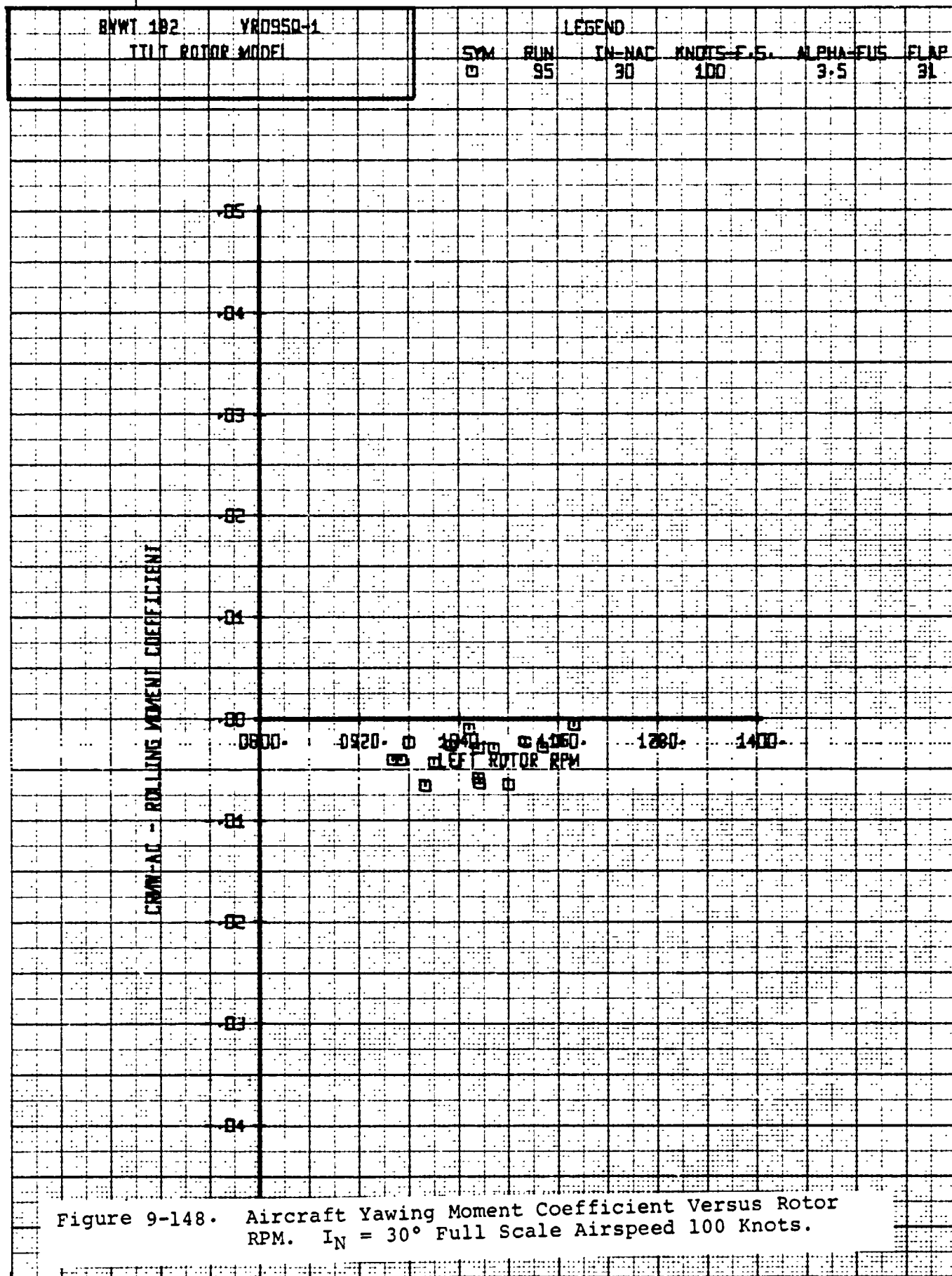


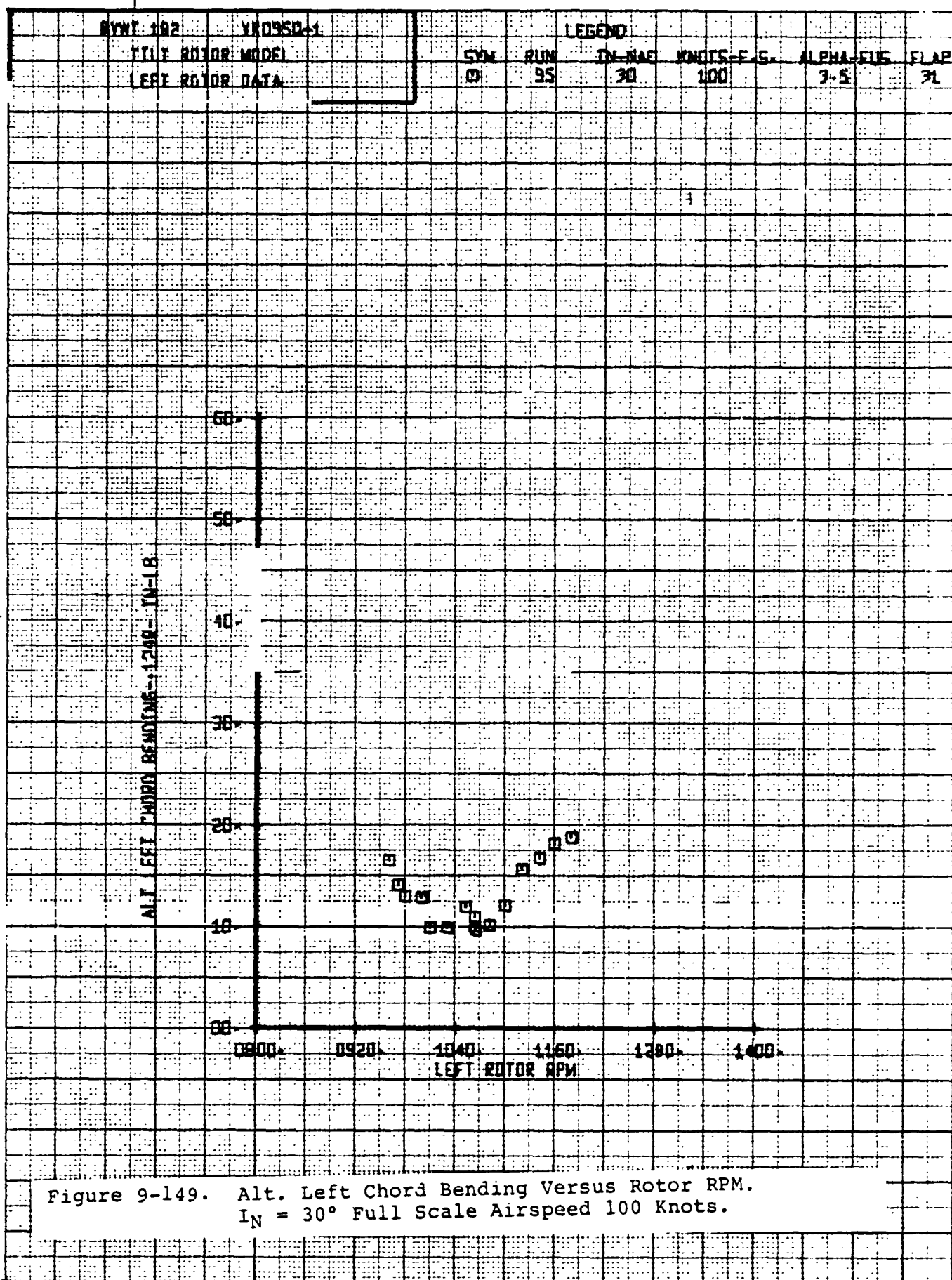


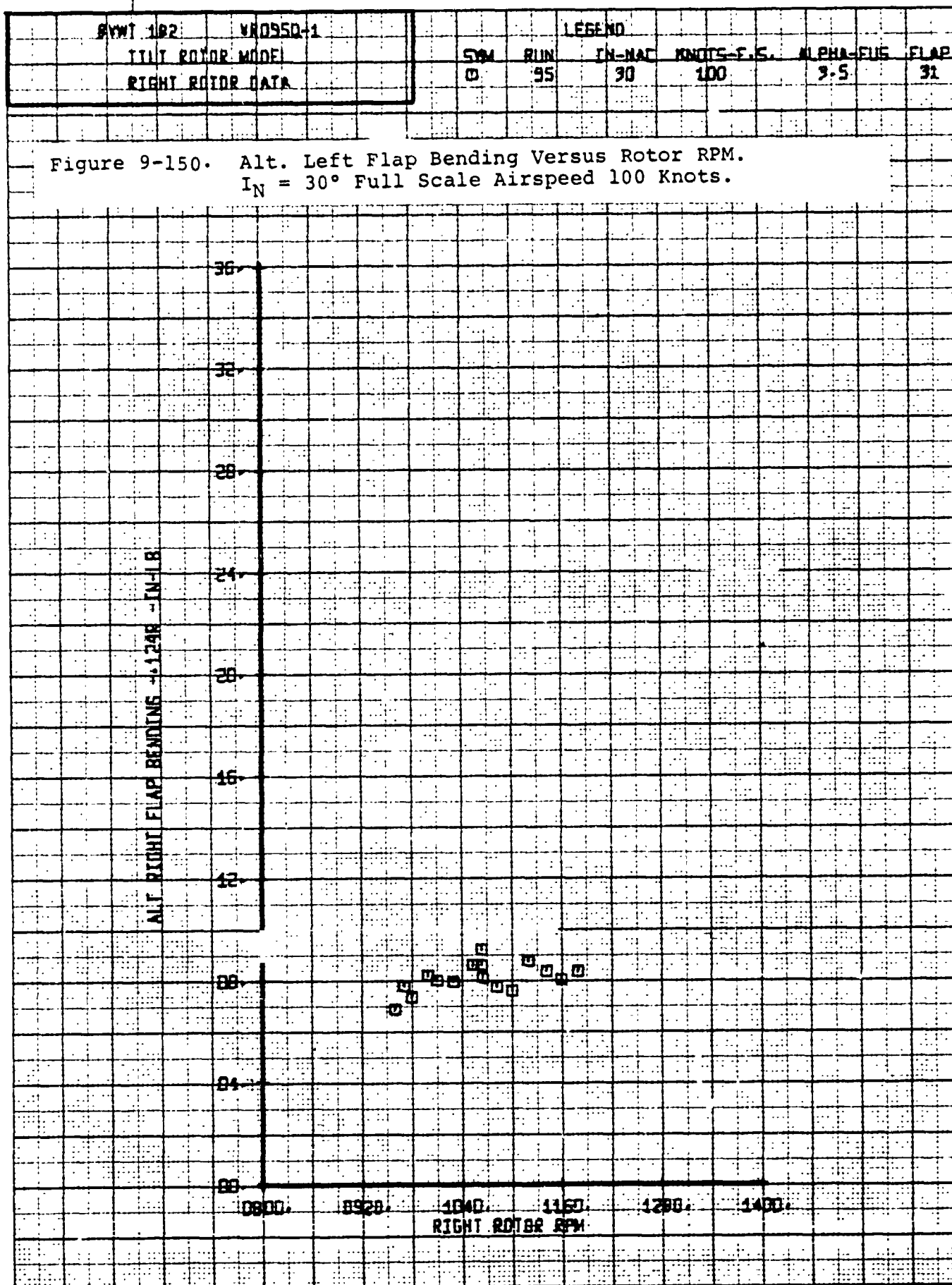






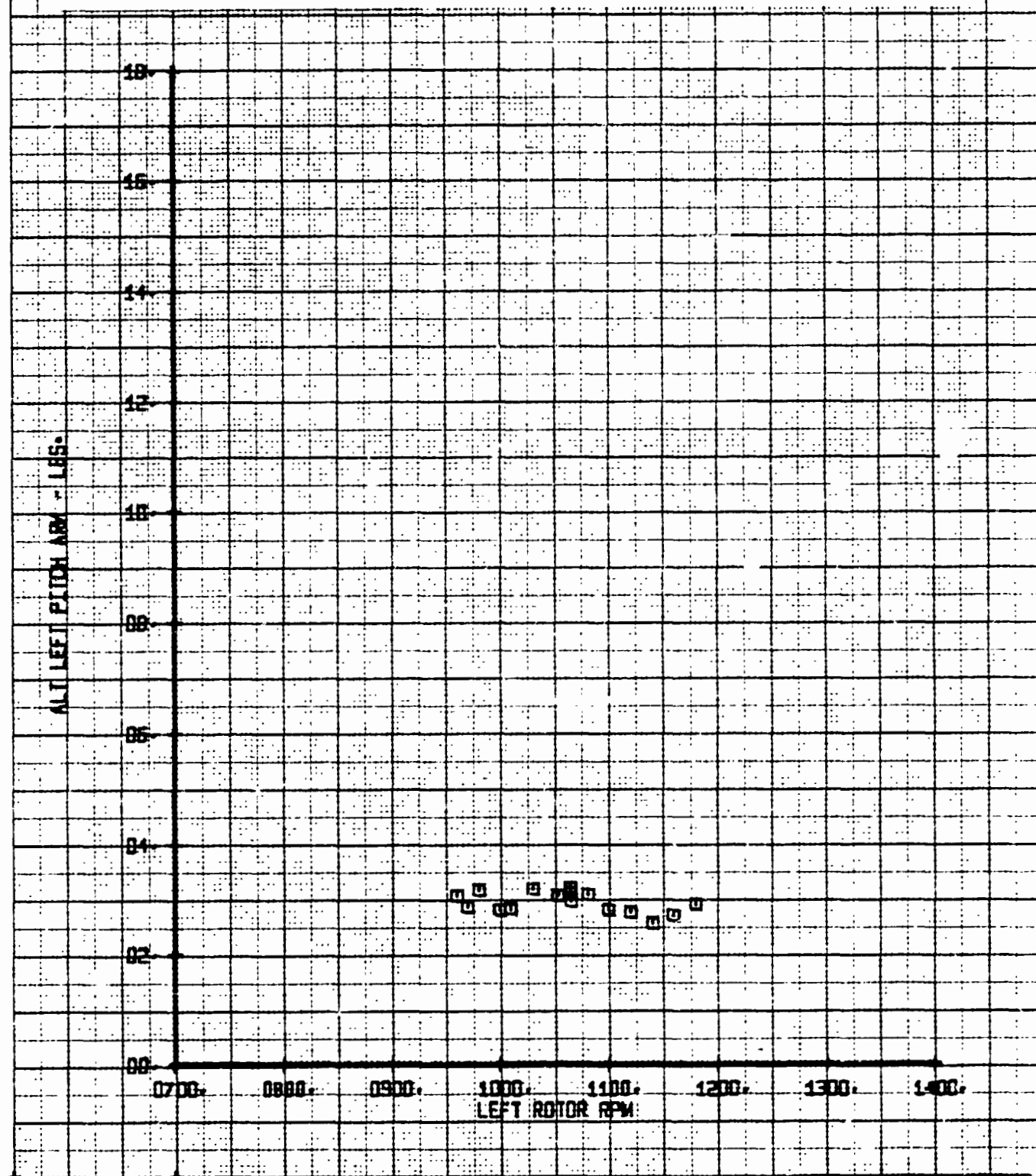


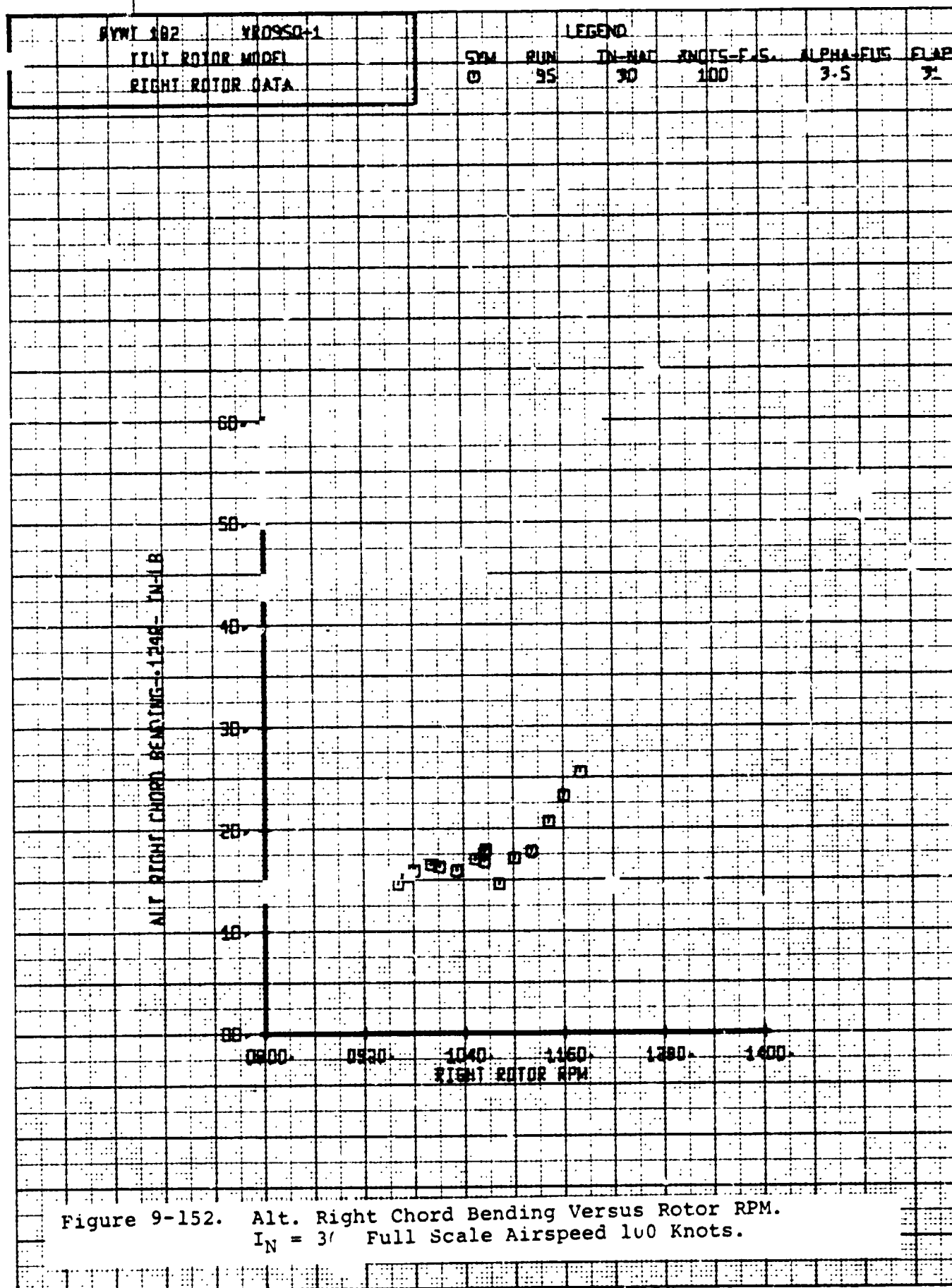


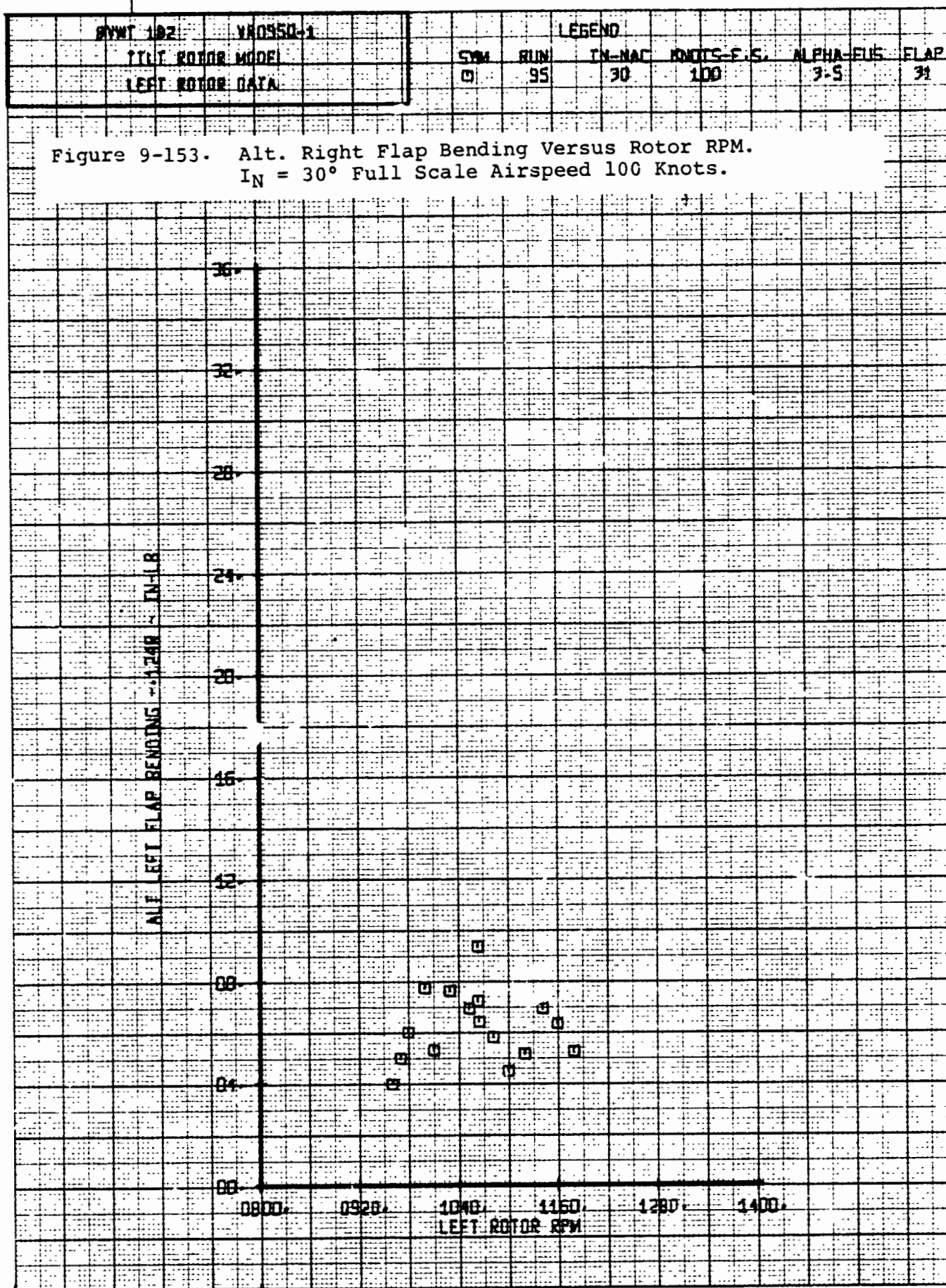


BYWT 182	YD0550-1	LEGEND				
TILT ROTOR MODEL		SYM	R/N	IN-NAC	KNOTS-F.S.	ALPHA-DEG
LEFT ROTOR DATA		□	95	30	100	3.5
						FLAP 31

Figure 9-151. Alt. Left Pitch Link Load Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.

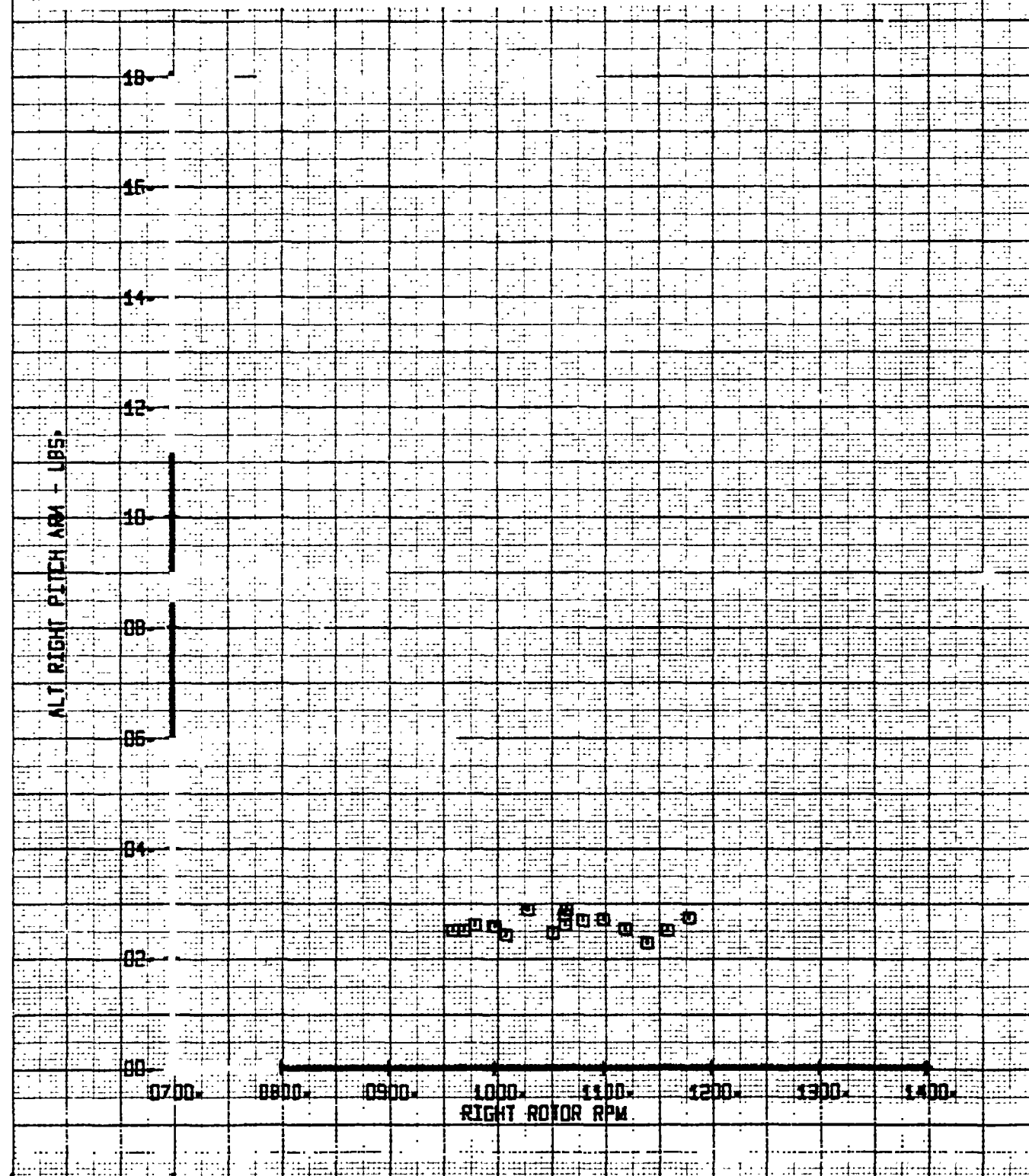


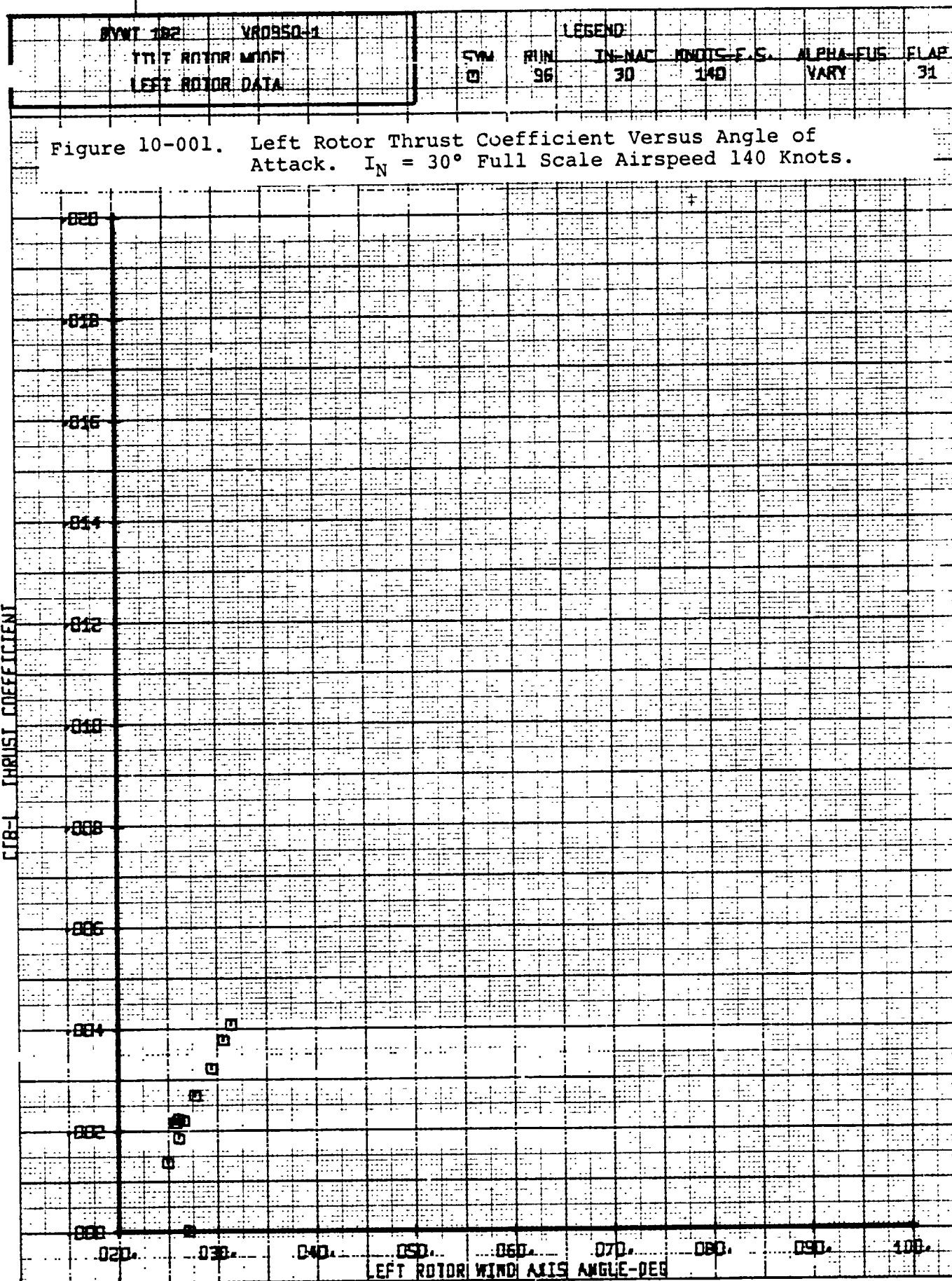




BVWT 182	VR0950-1	LEGEND					
TILT ROTOR MODEL		SYM	PLN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR DATA		0	95	30	100	3-5	31

Figure 9-154. Alt. Right Flap Bending Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 100 Knots.





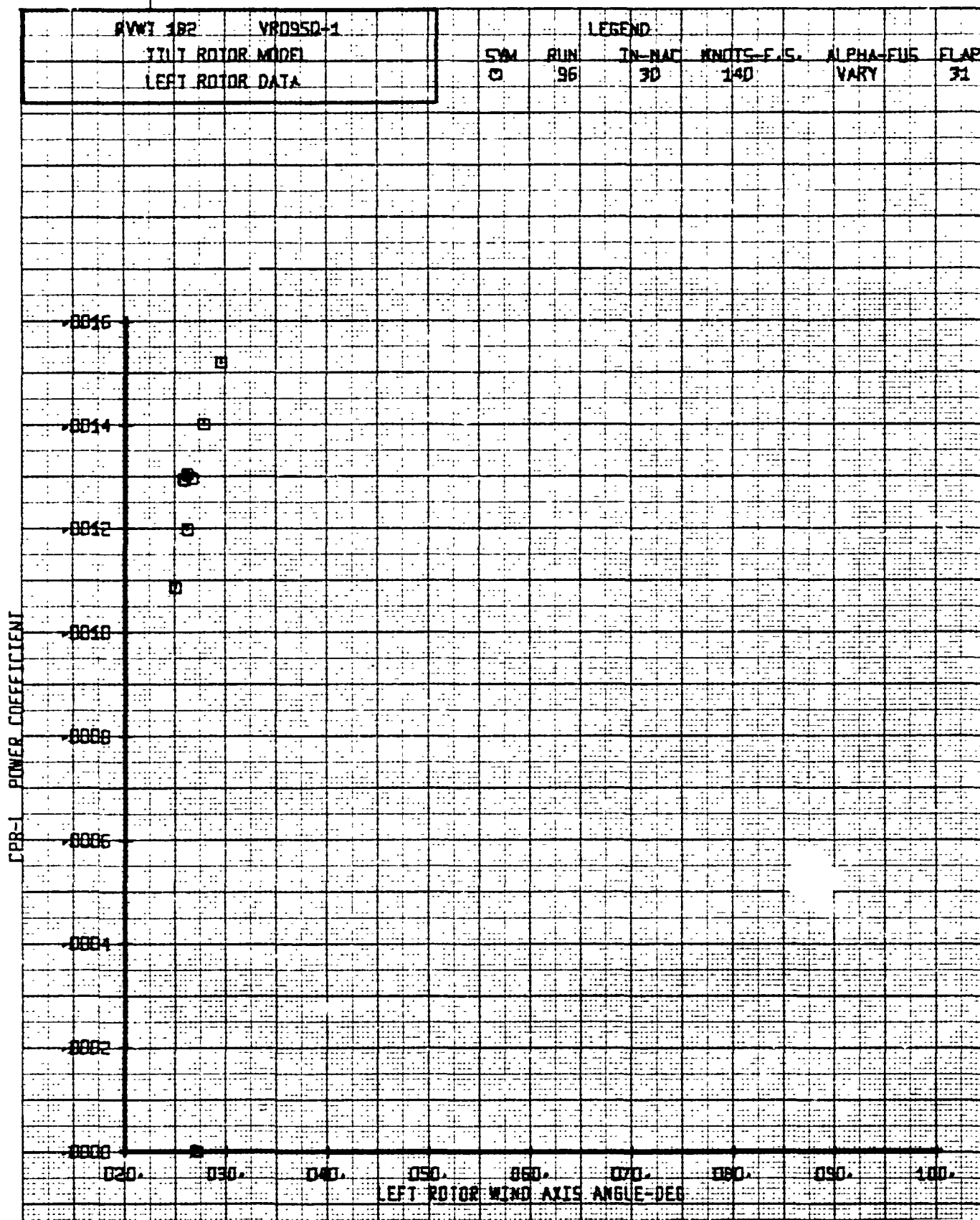
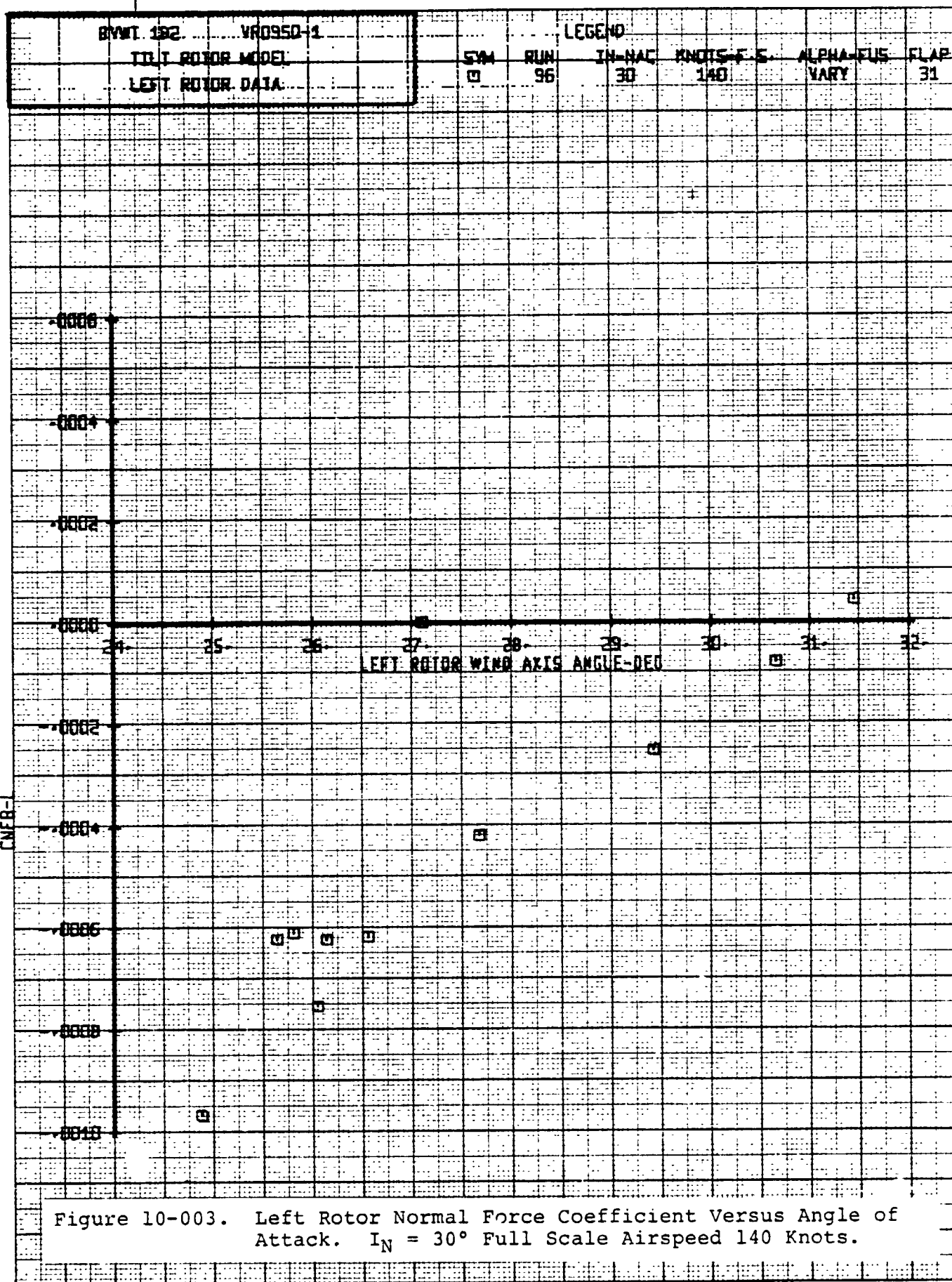
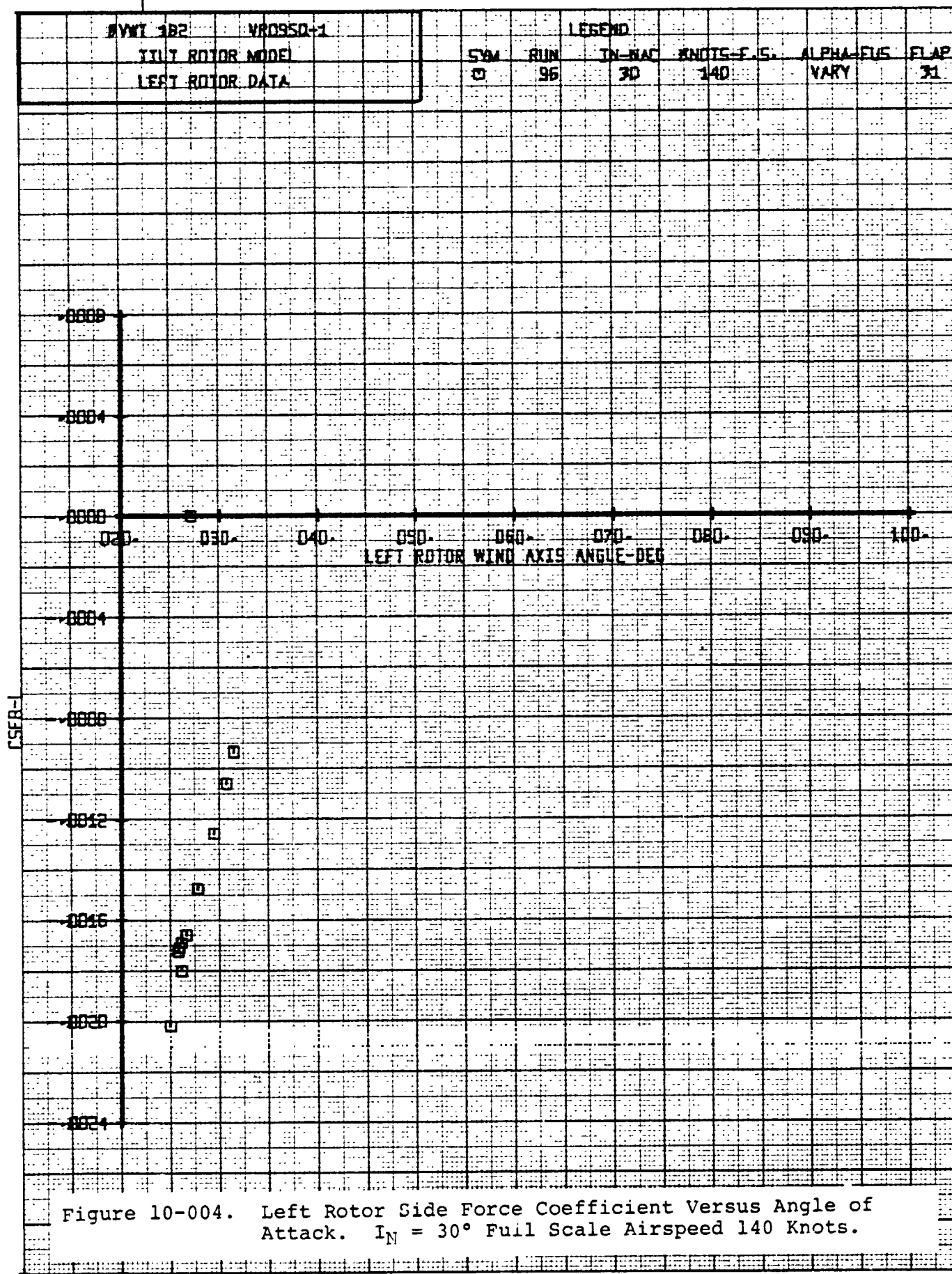
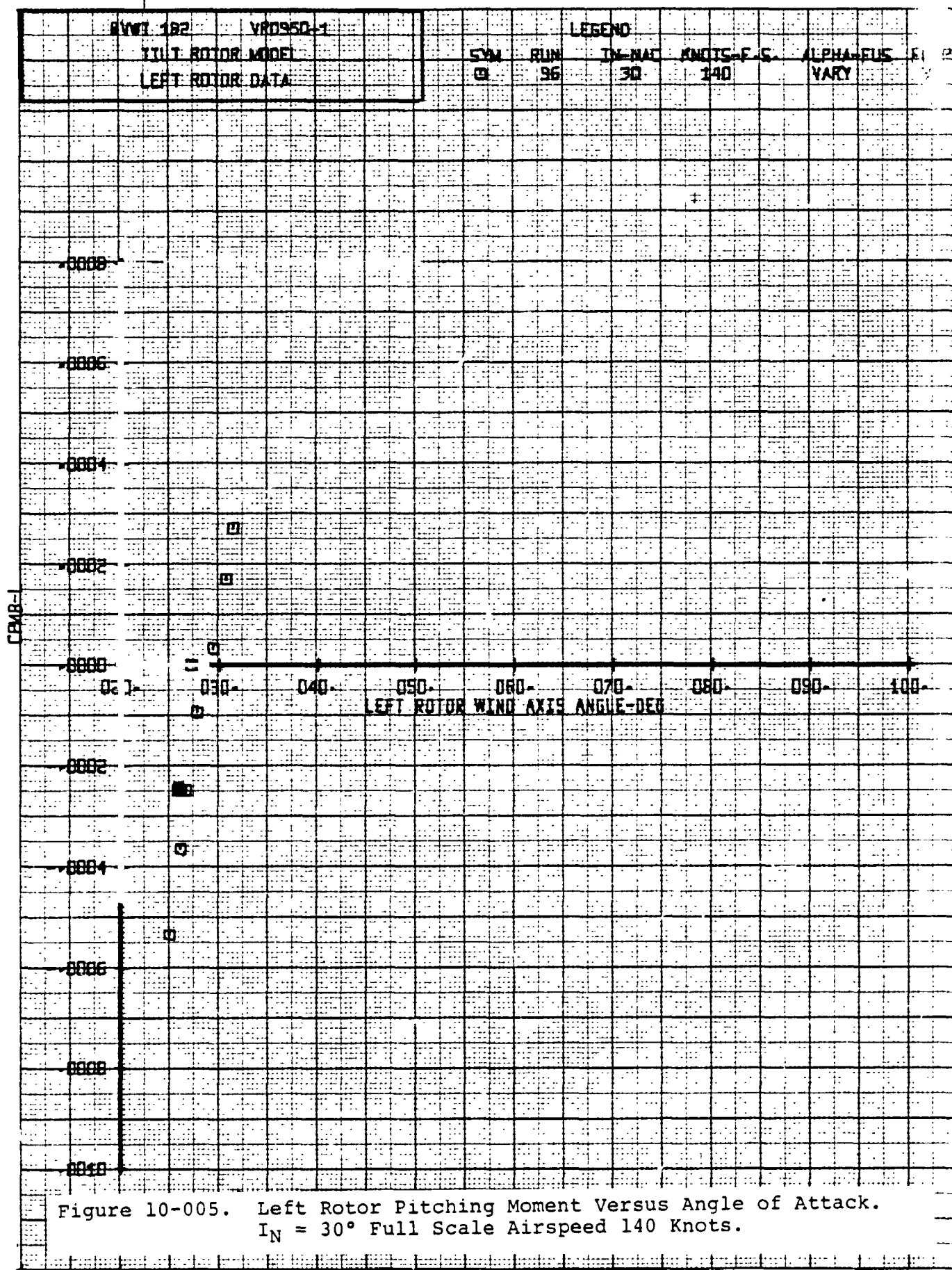
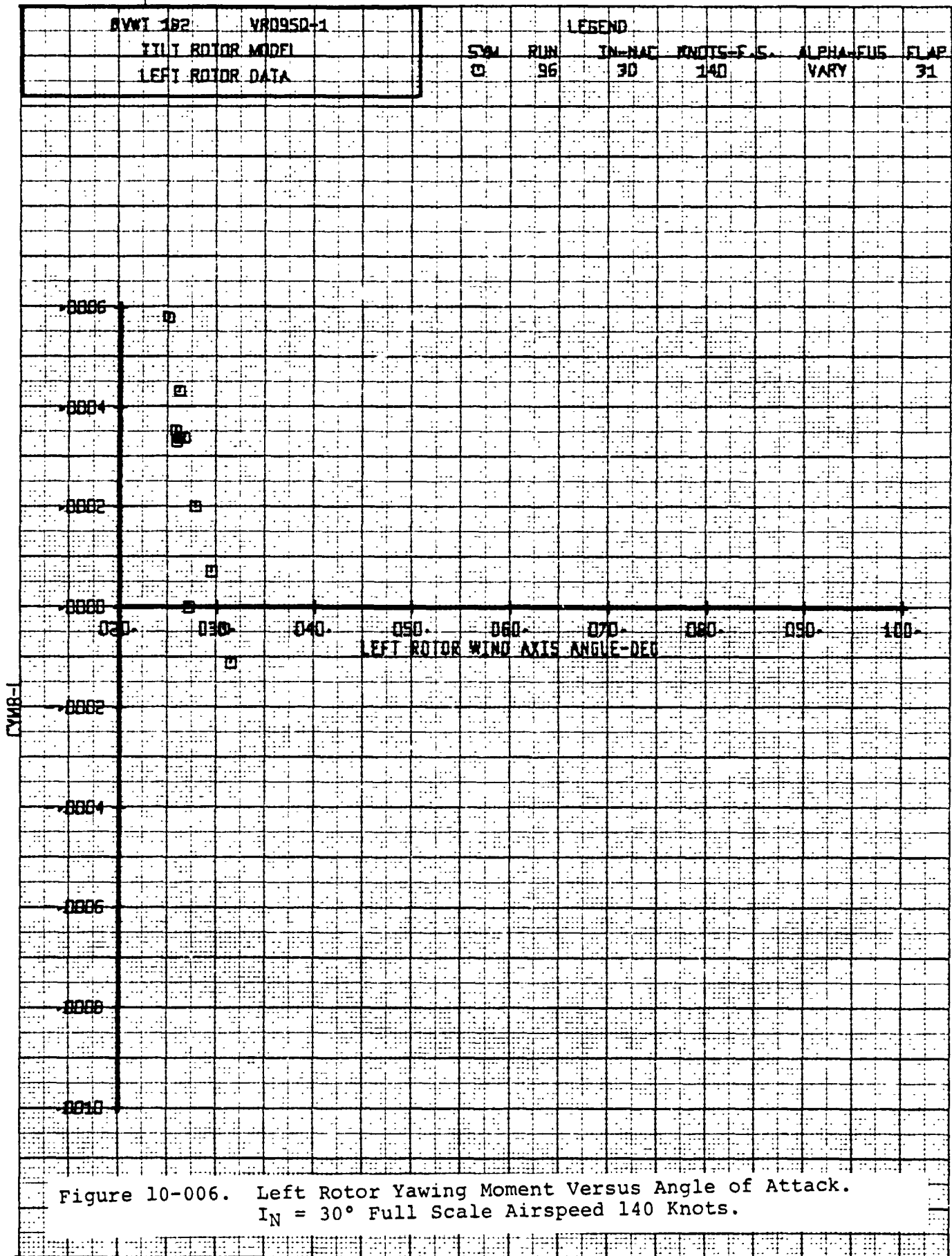


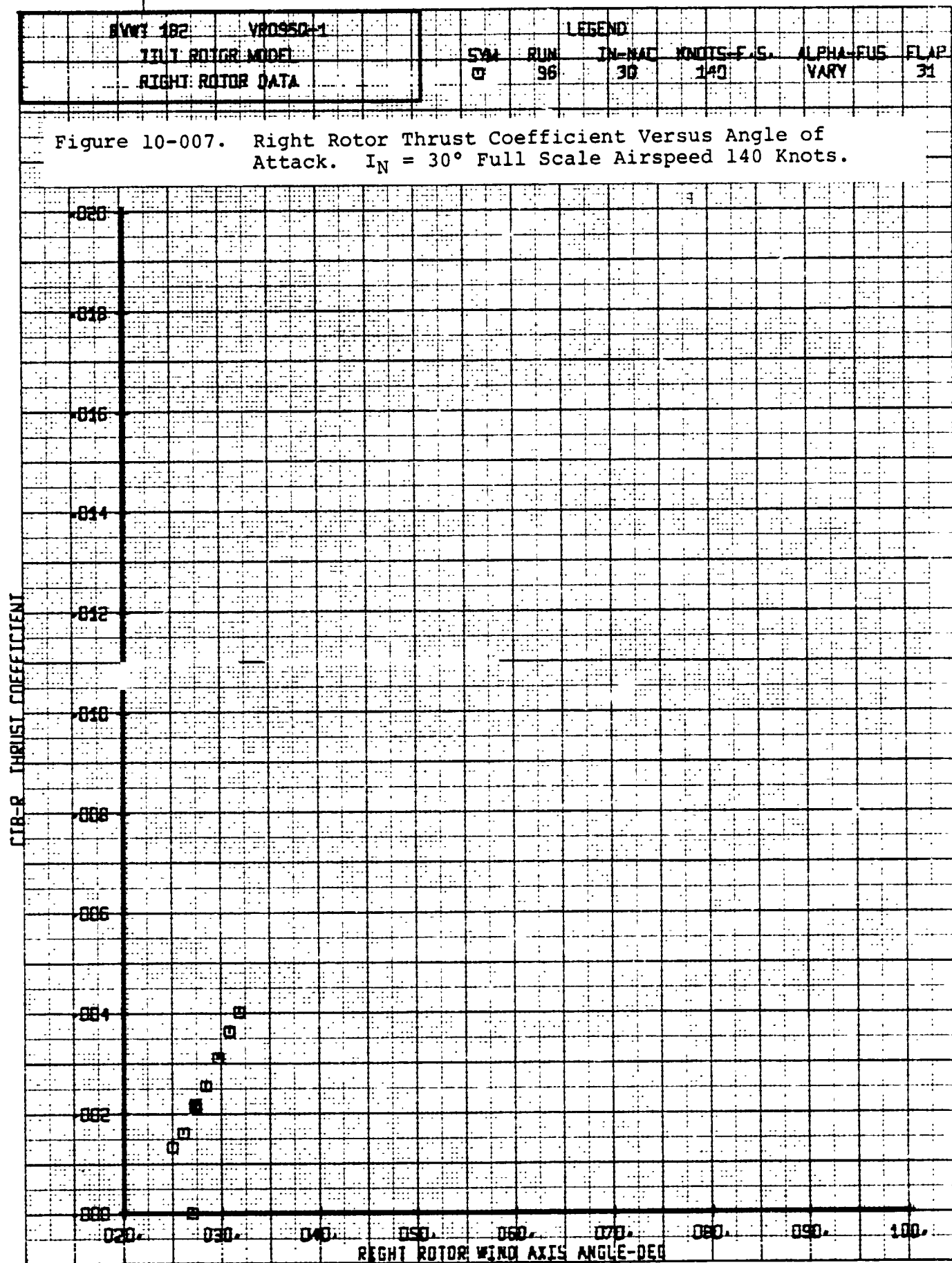
Figure 10-002. Left Rotor Power Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.











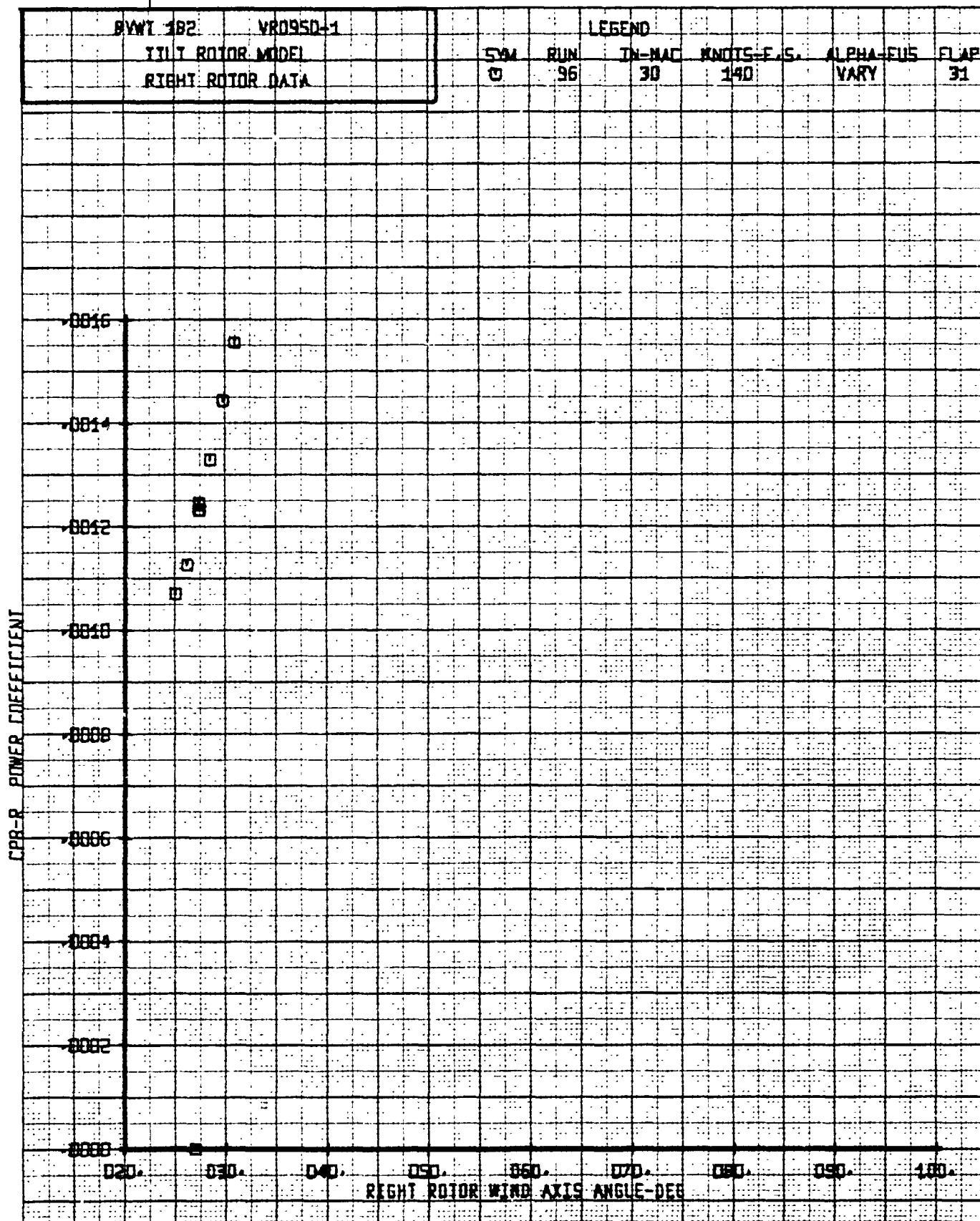
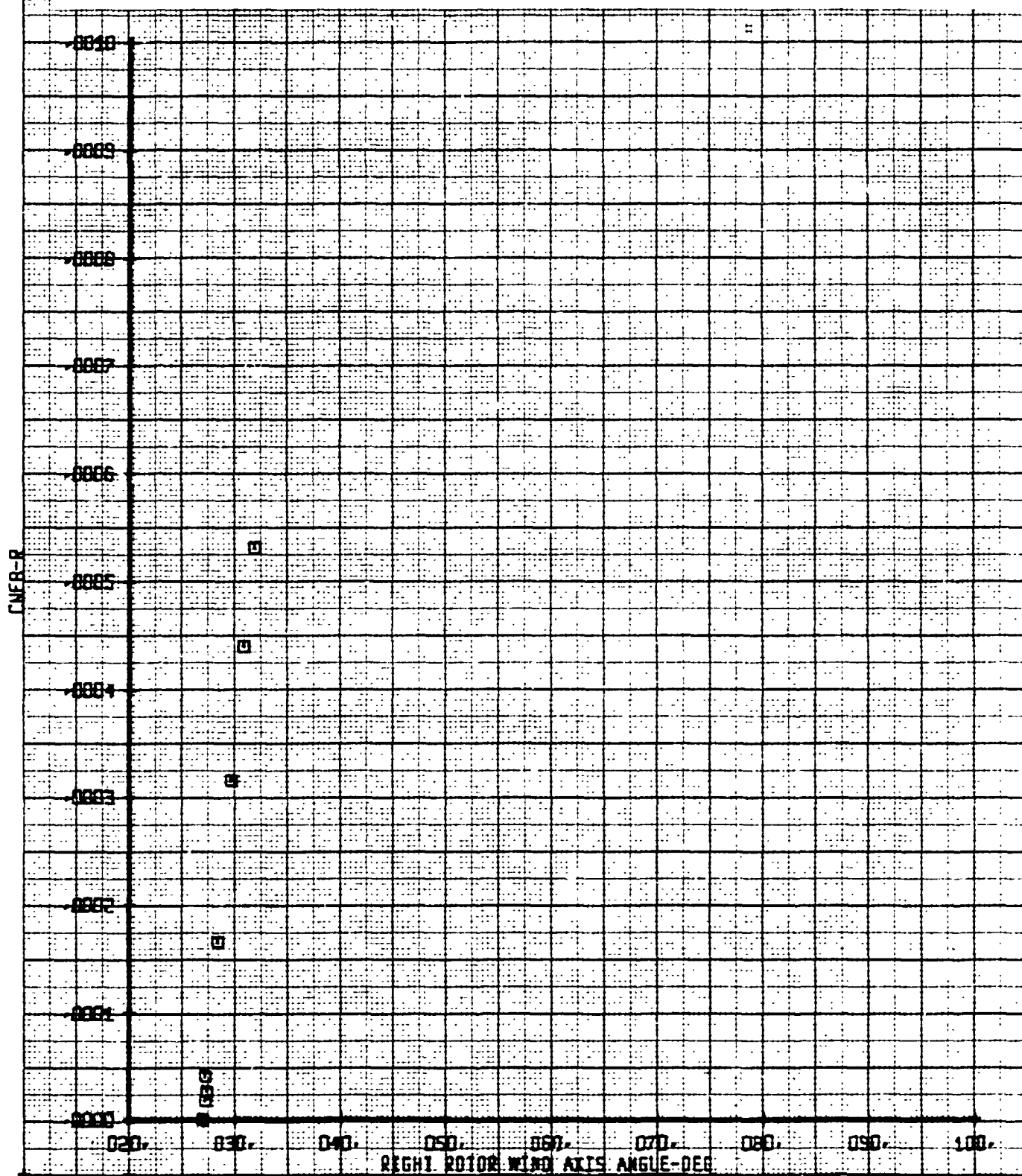
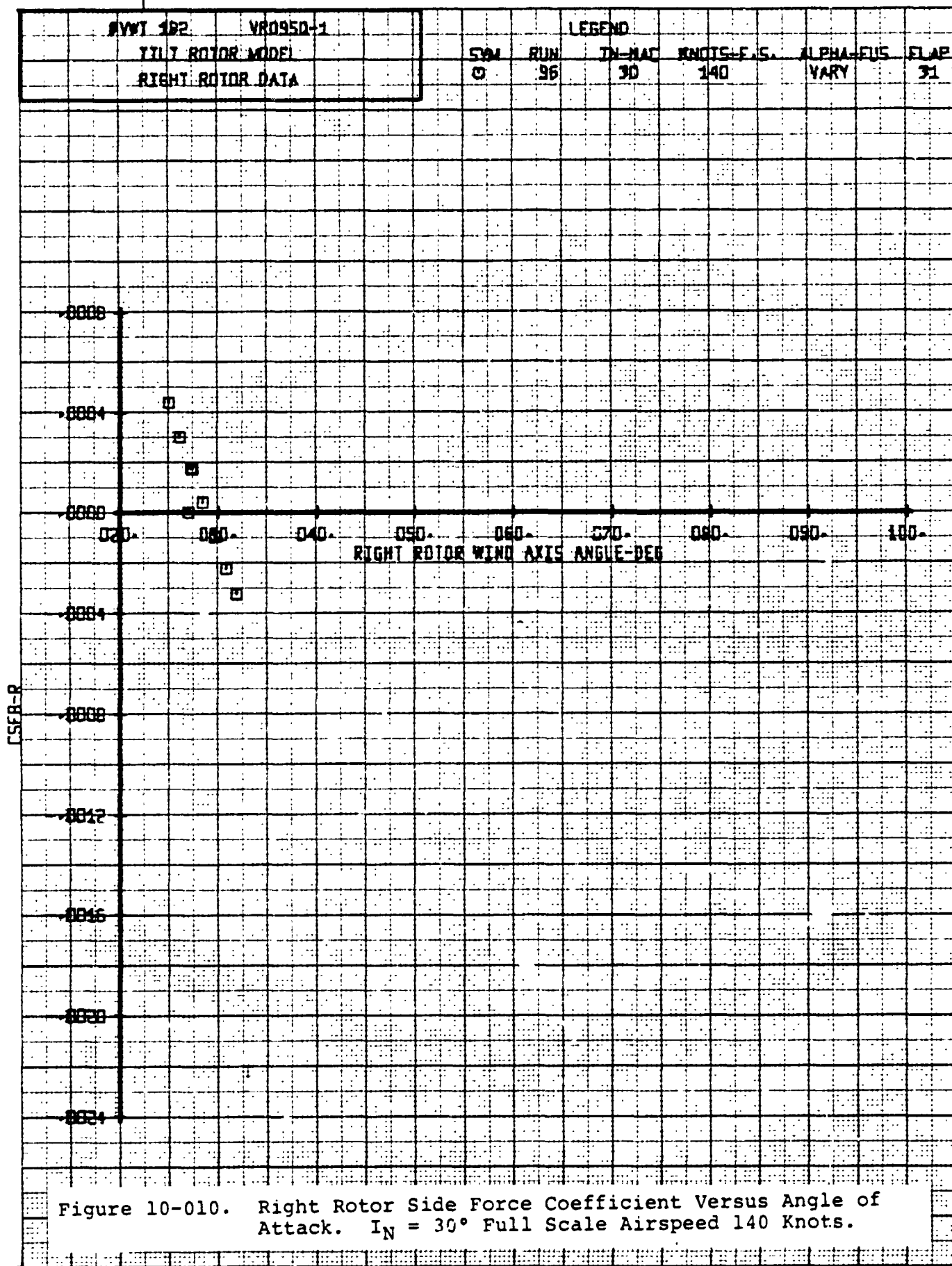


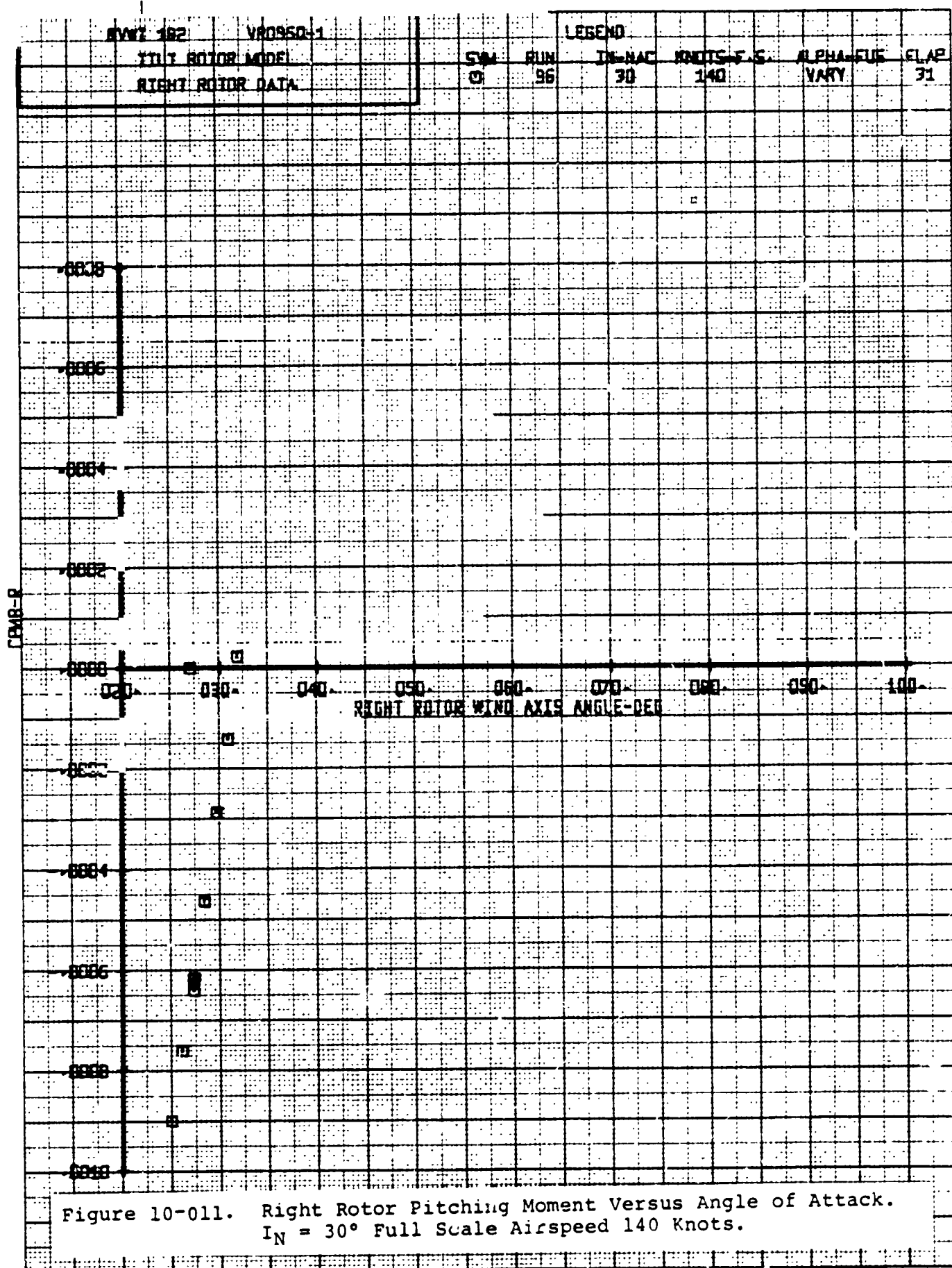
Figure 10-008. Right Rotor Power Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

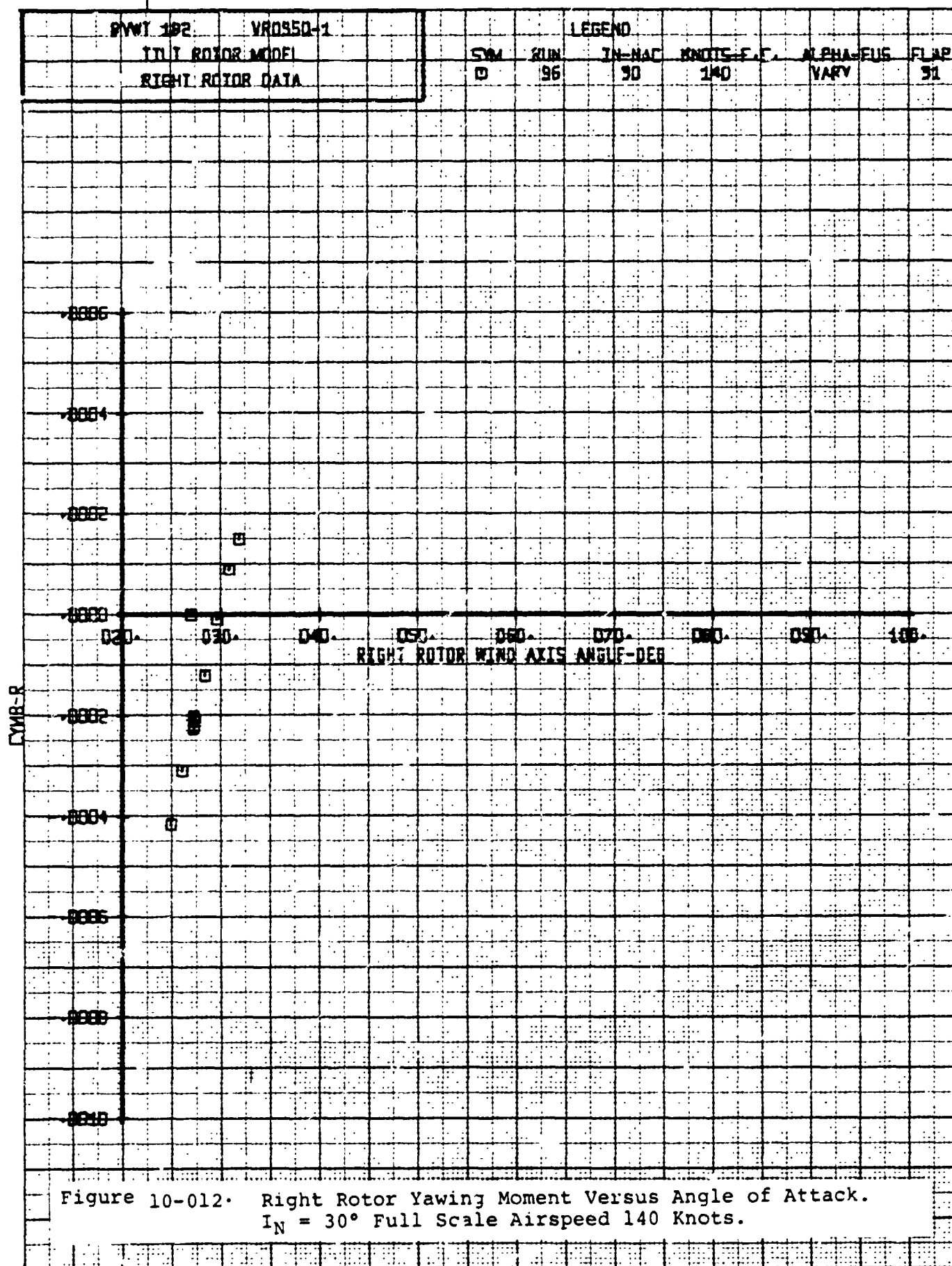
AVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODE:		SW	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	96	30	140	VARY
						FLAP 31

Figure 10-009. Right Rotor Normal Force Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



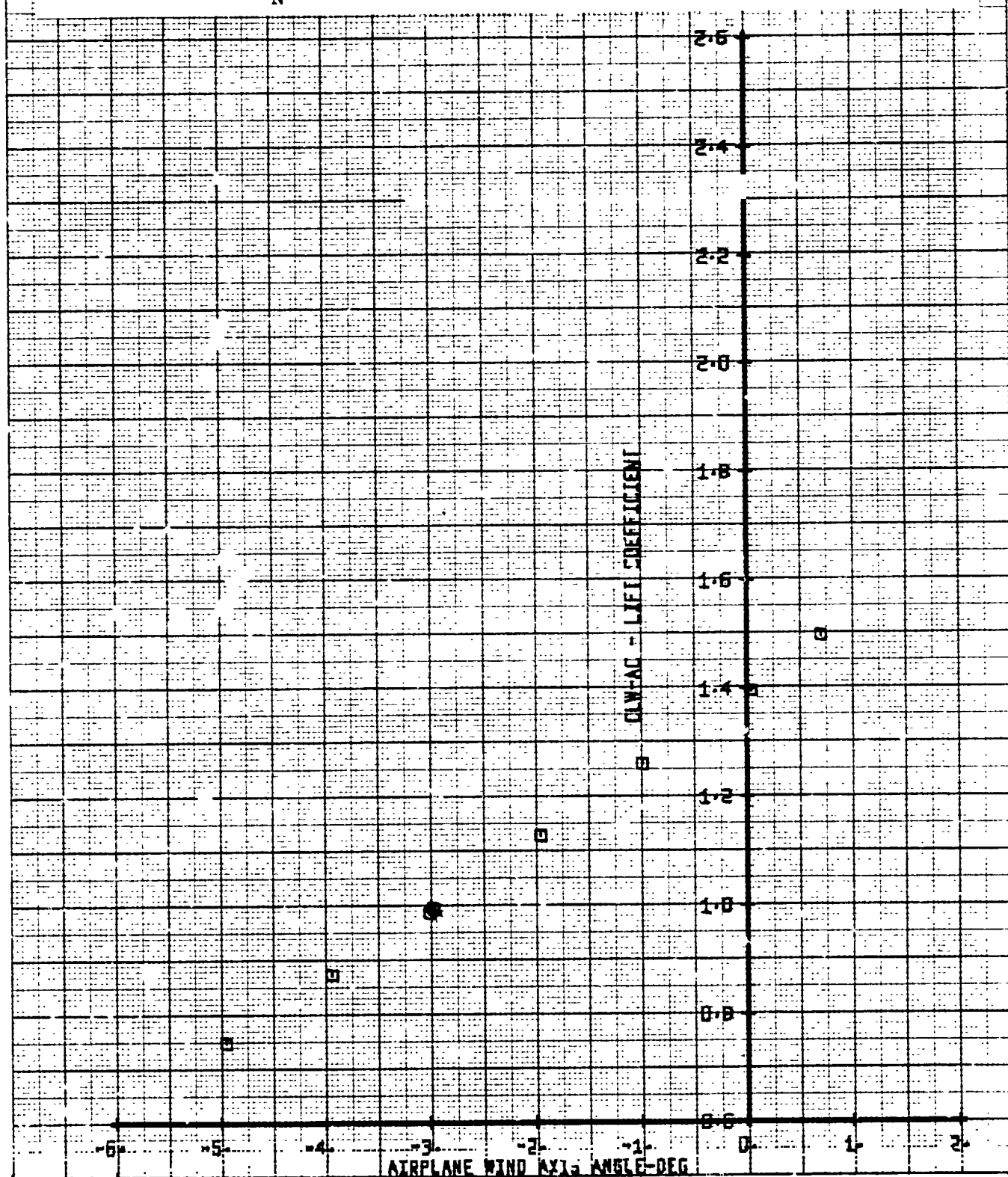


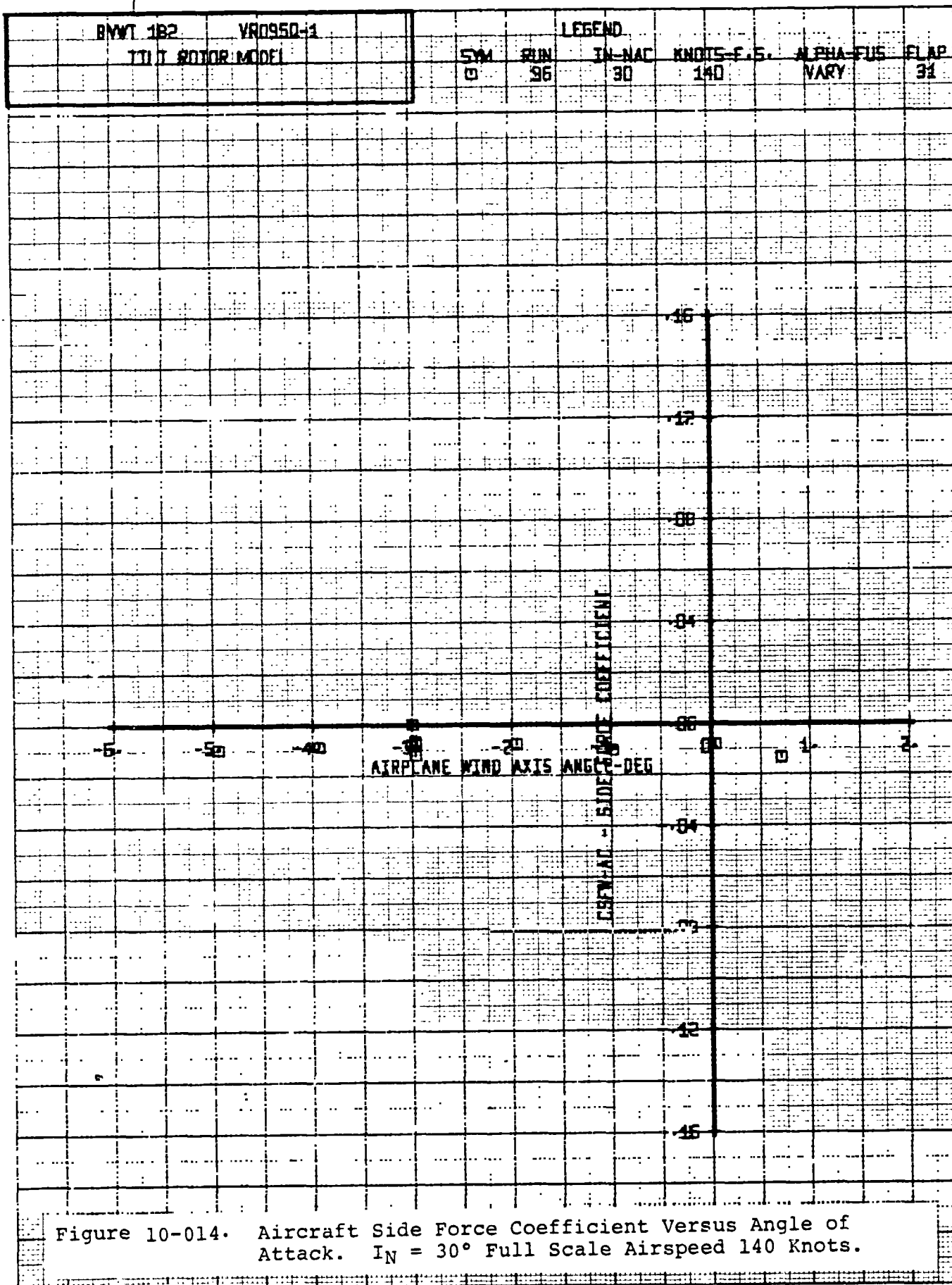


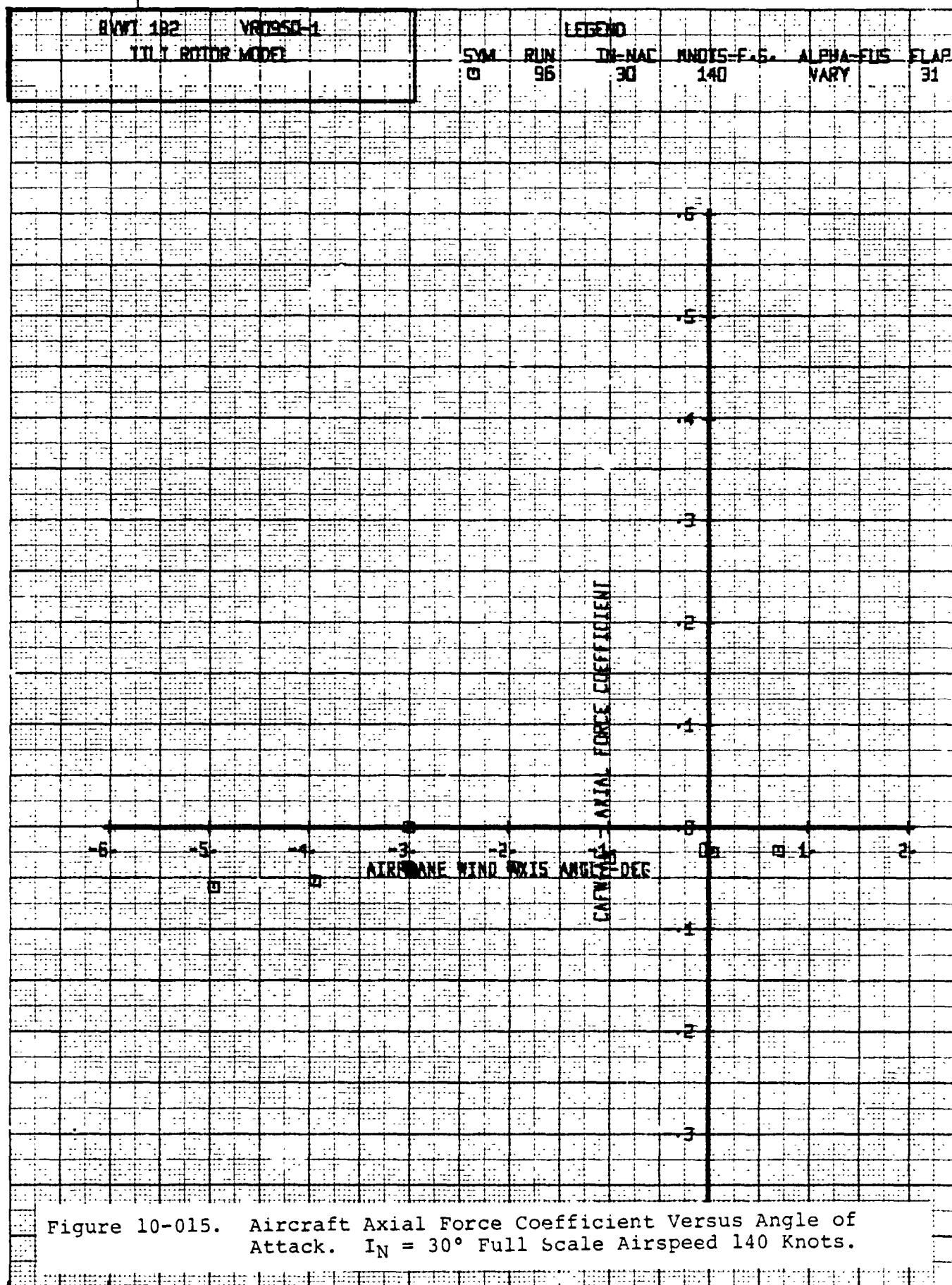


BVWT 182	V80950-1	LEGEND							
TILT ROTOR MODEL		SW	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP		
		0	36	30	140	VARY	31		

Figure 10-013. Aircraft Lift Coefficient Versus Angle of Attack.
 $I_N = 30'$ Full Scale Airspeed 140 Knots.







BVWT 182 VR0950-1

TILT ROTOR MODEL

LEGEND

SYM	RUN	IN-NAC	KNOTS-F.F.	ALPHA-DEG	FLAP
□	96	30	140	VARY	31

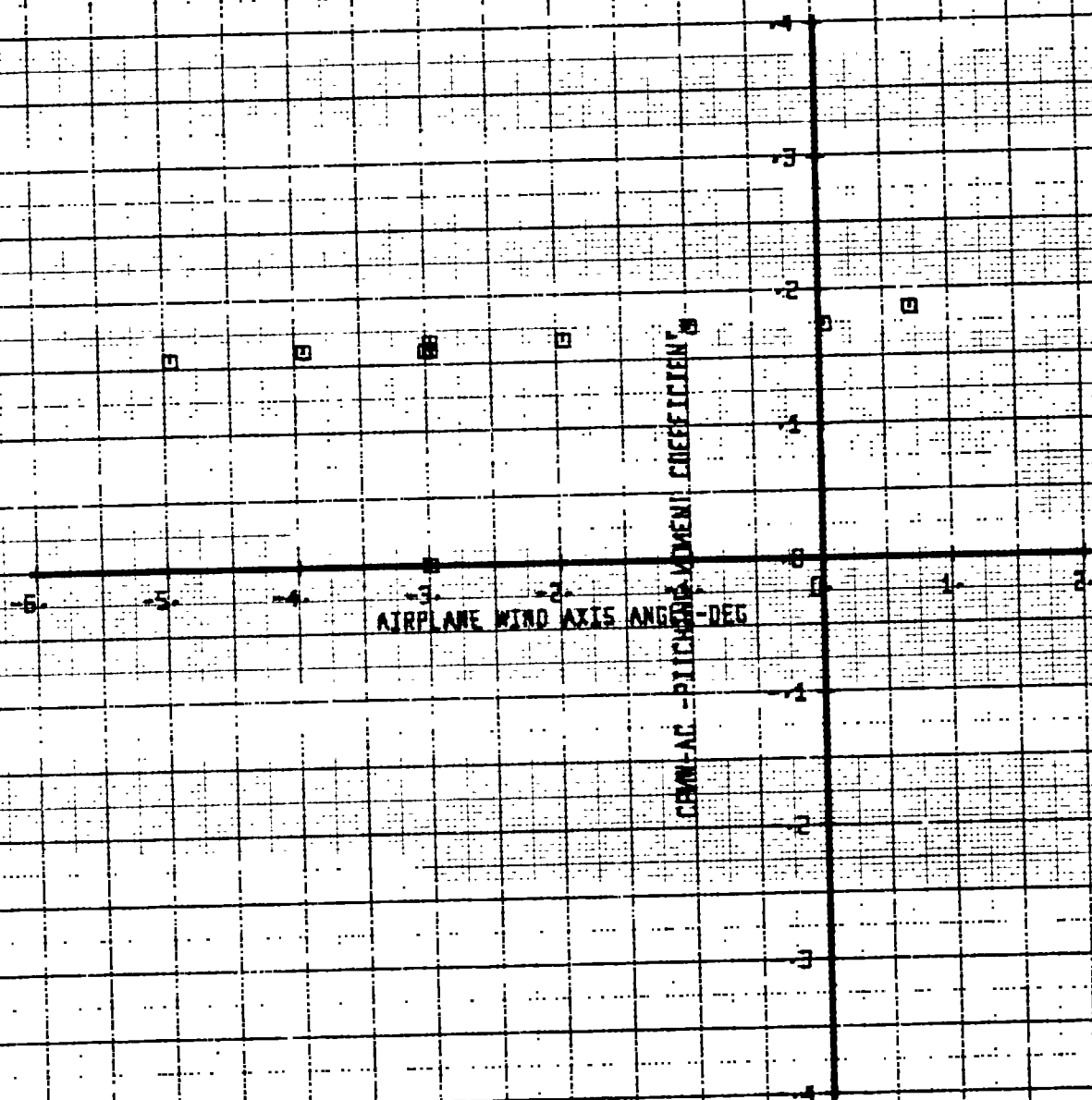


Figure 10-016. Aircraft Pitching Moment Versus Angle of Attack.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

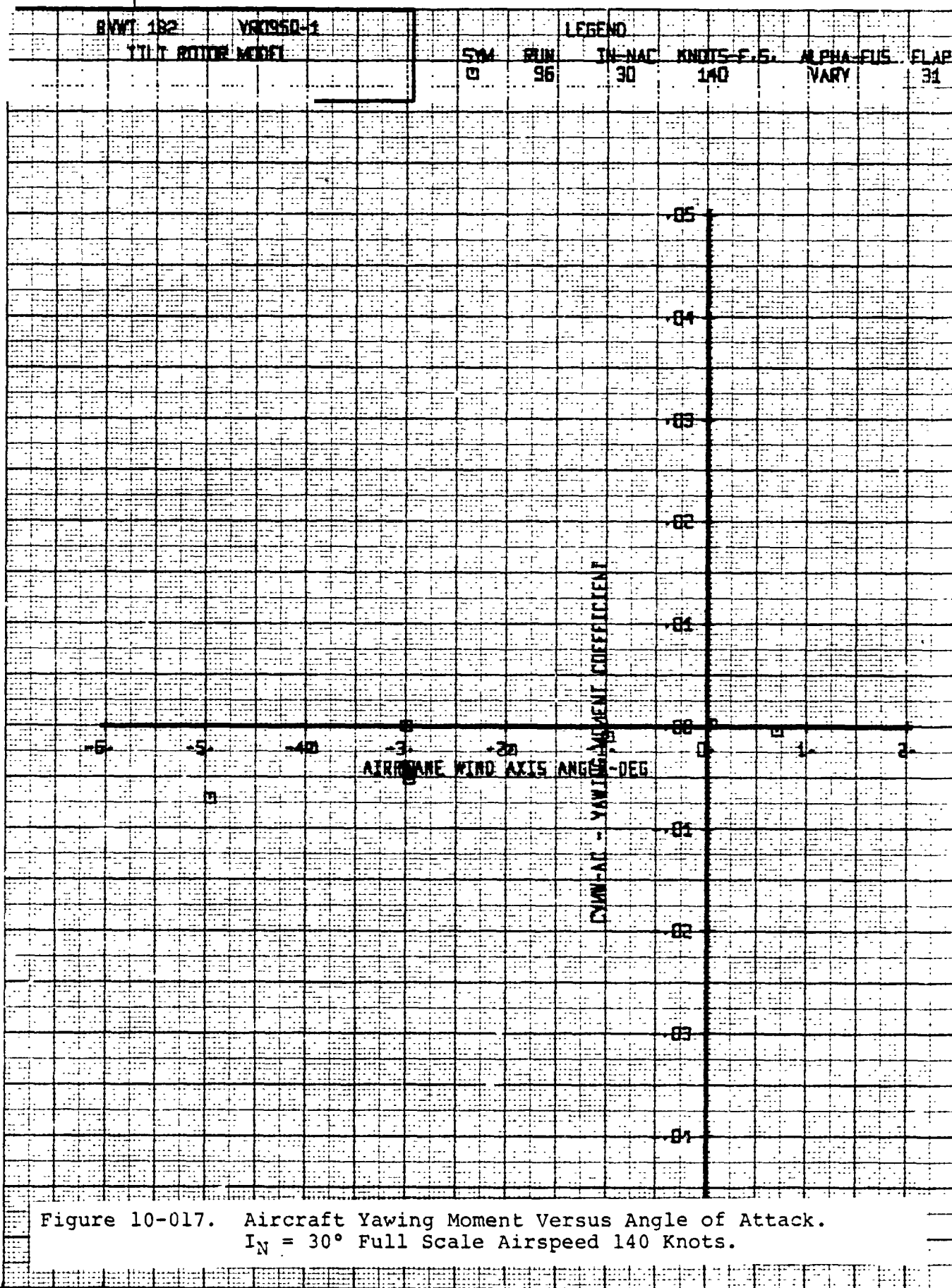


Figure 10-017. Aircraft Yawing Moment Versus Angle of Attack.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182 VR0950-1
TILT ROTOR MODEL

LEGEND

SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
□	96	30	140	VARY	31

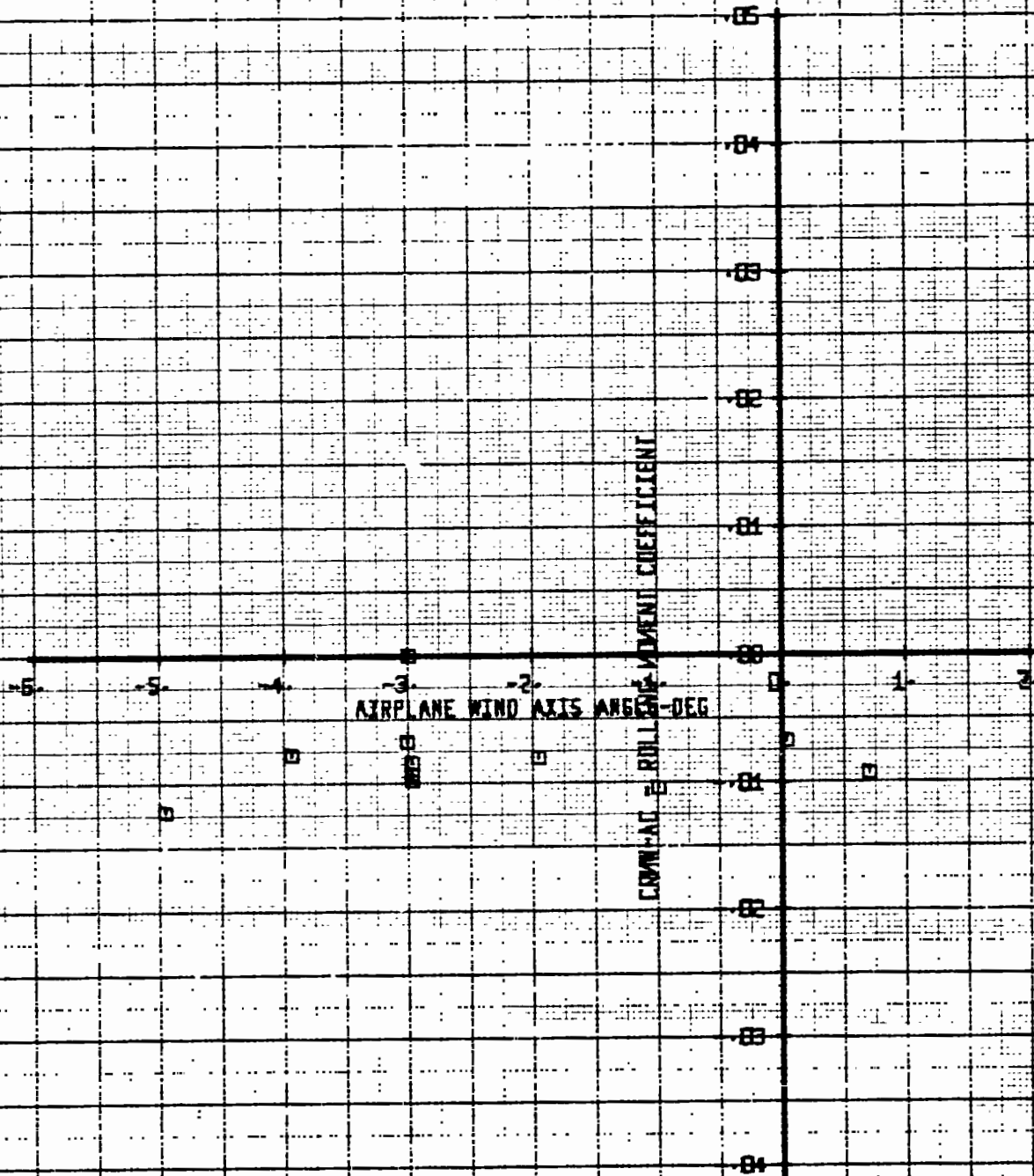


Figure 10-018. Aircraft Rolling Moment Versus Angle of Attack.
IN = 30° Full Scale Airspeed 140 Knots.

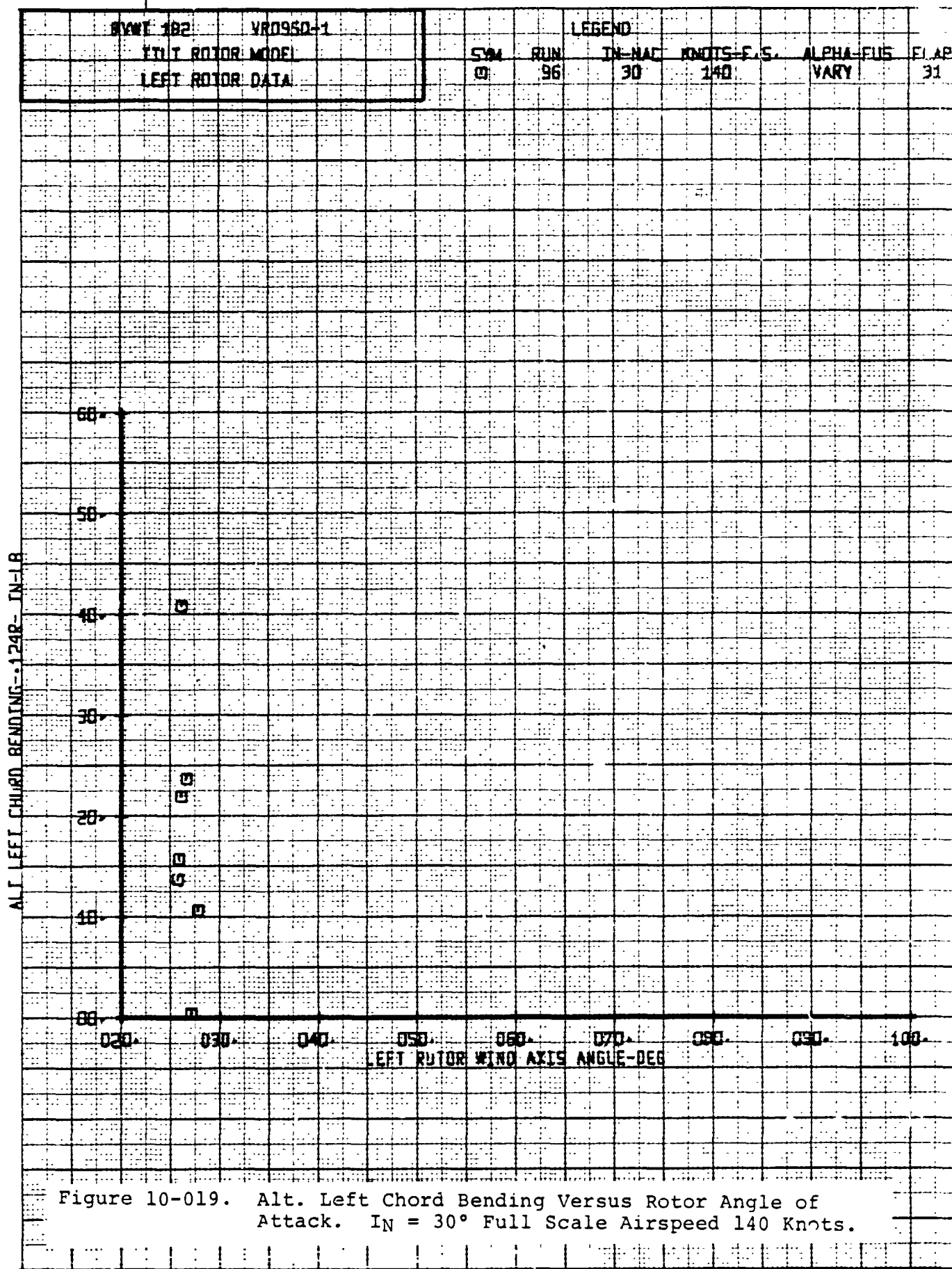
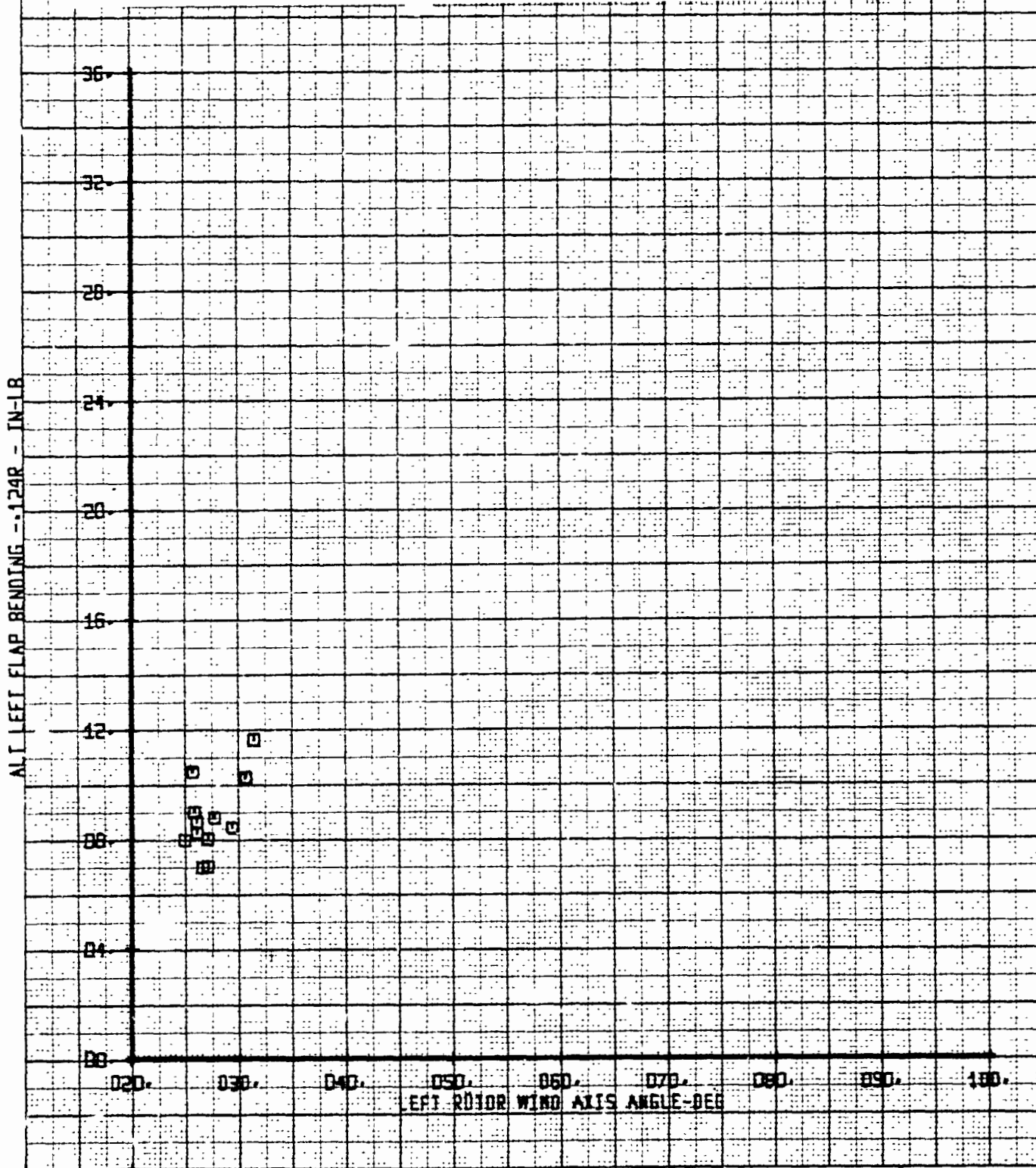
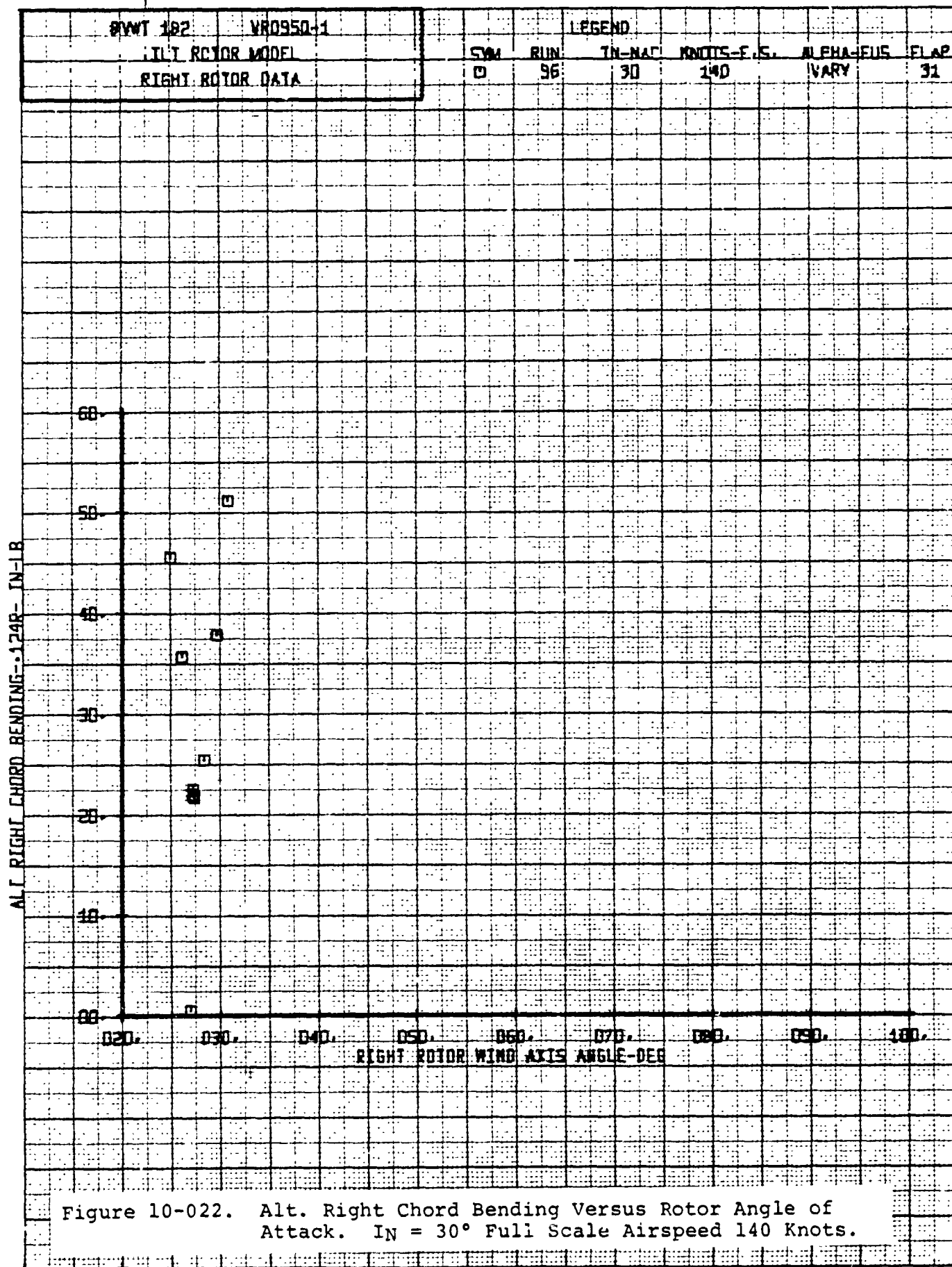


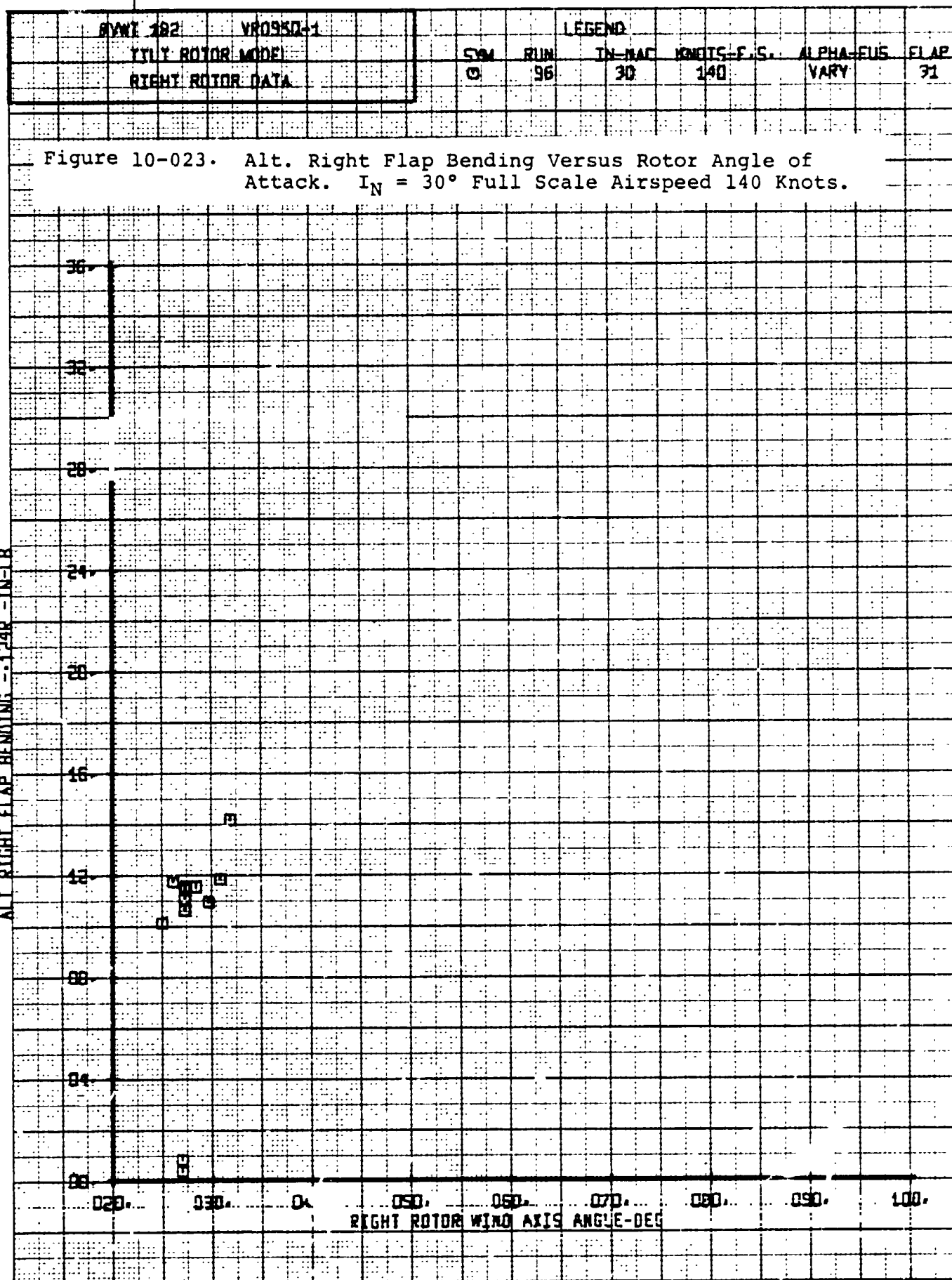
Figure 10-019. Alt. Left Chord Bending Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

SVWT 182		VR0950-1		LEGEND			
TILT ROTOR MODEL				SYM	RUIN	IN-NAC	KNOTS-F.S.
LEFT ROTOR DATA				□	96	30	140
						ALPHA-FUS	FLAP
						VARY	31

Figure 10-020. Alt. Left Flap Bending Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

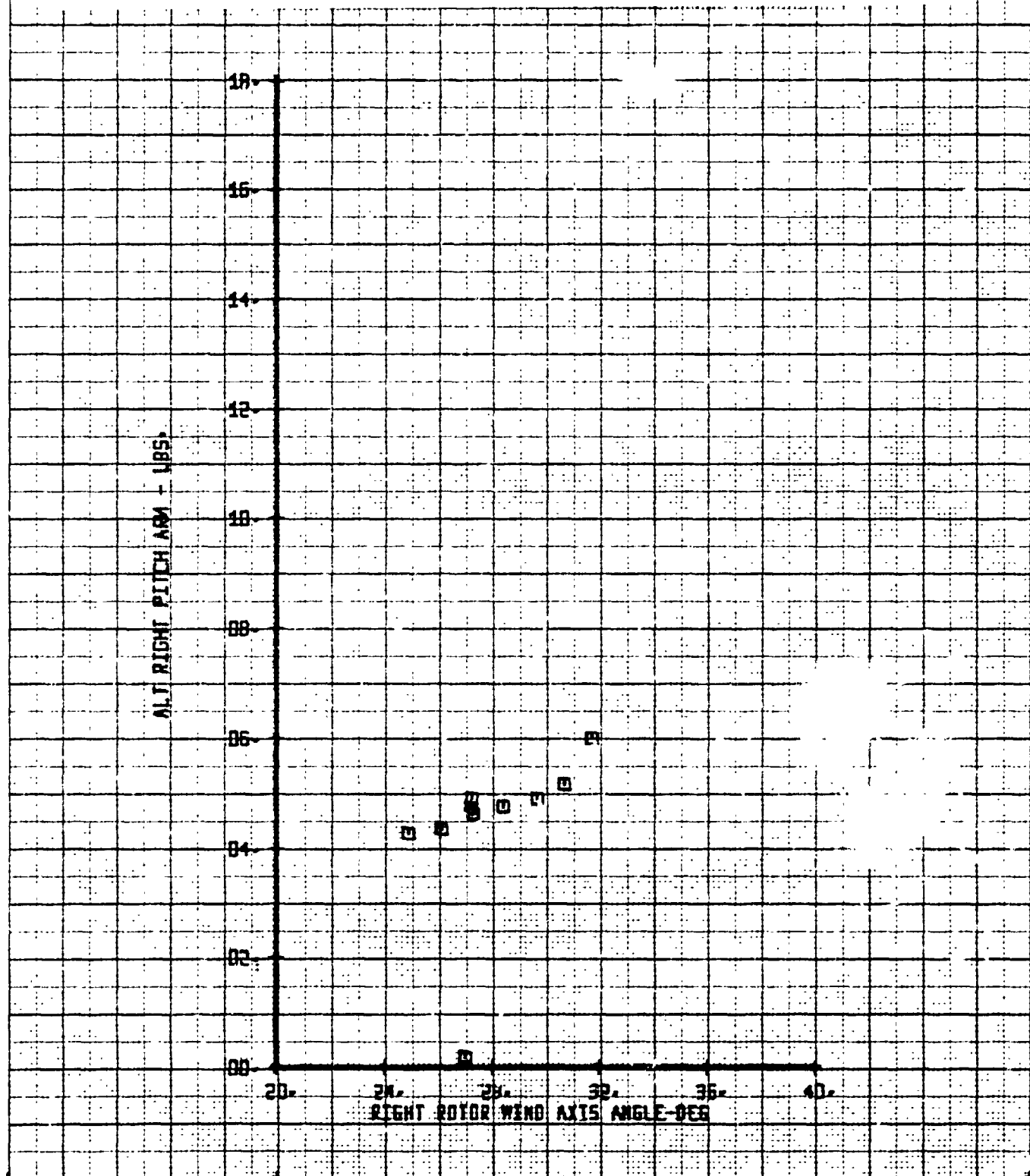






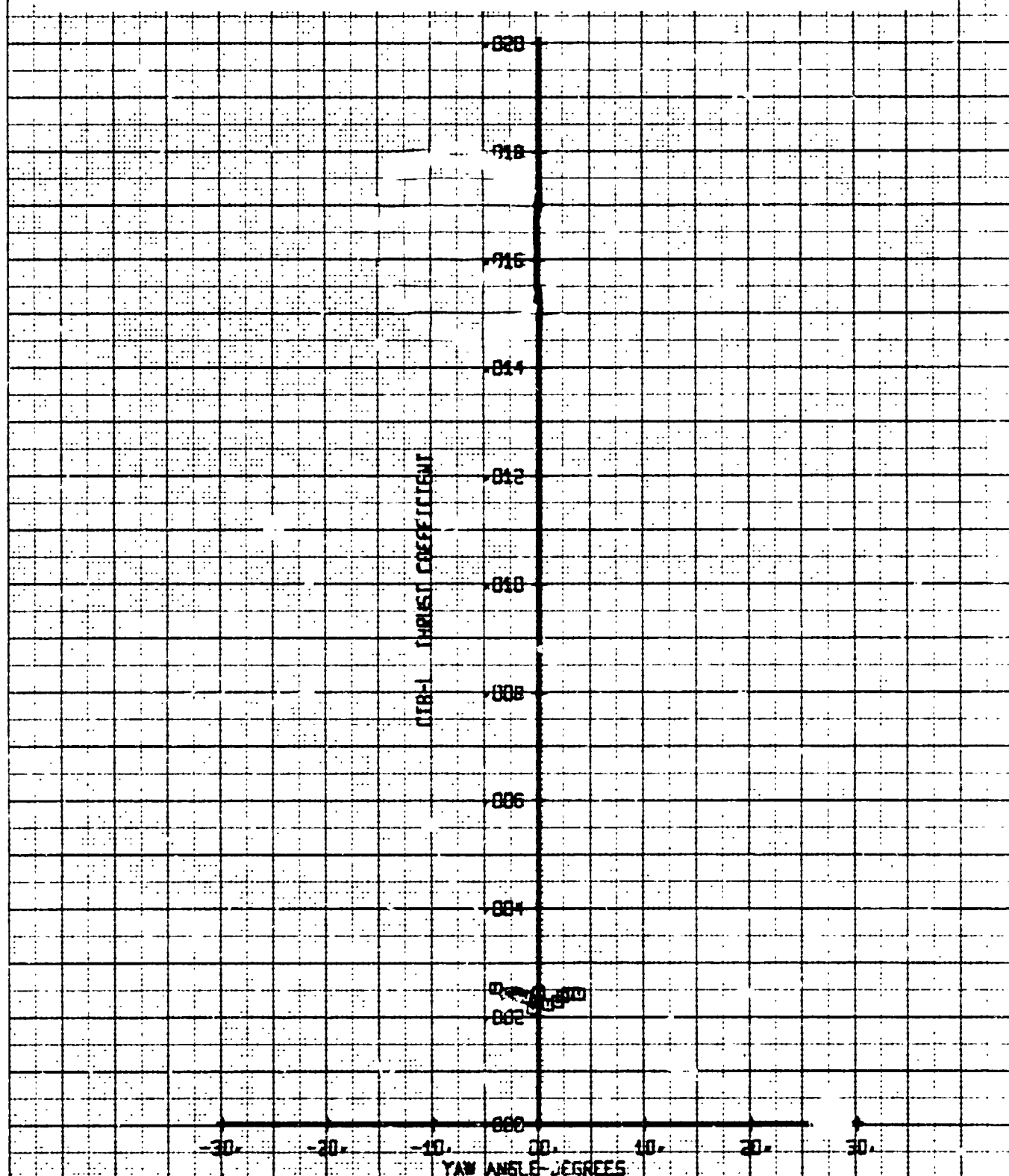
BYWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	96	30	140	VARY
		FLAP				
		31				

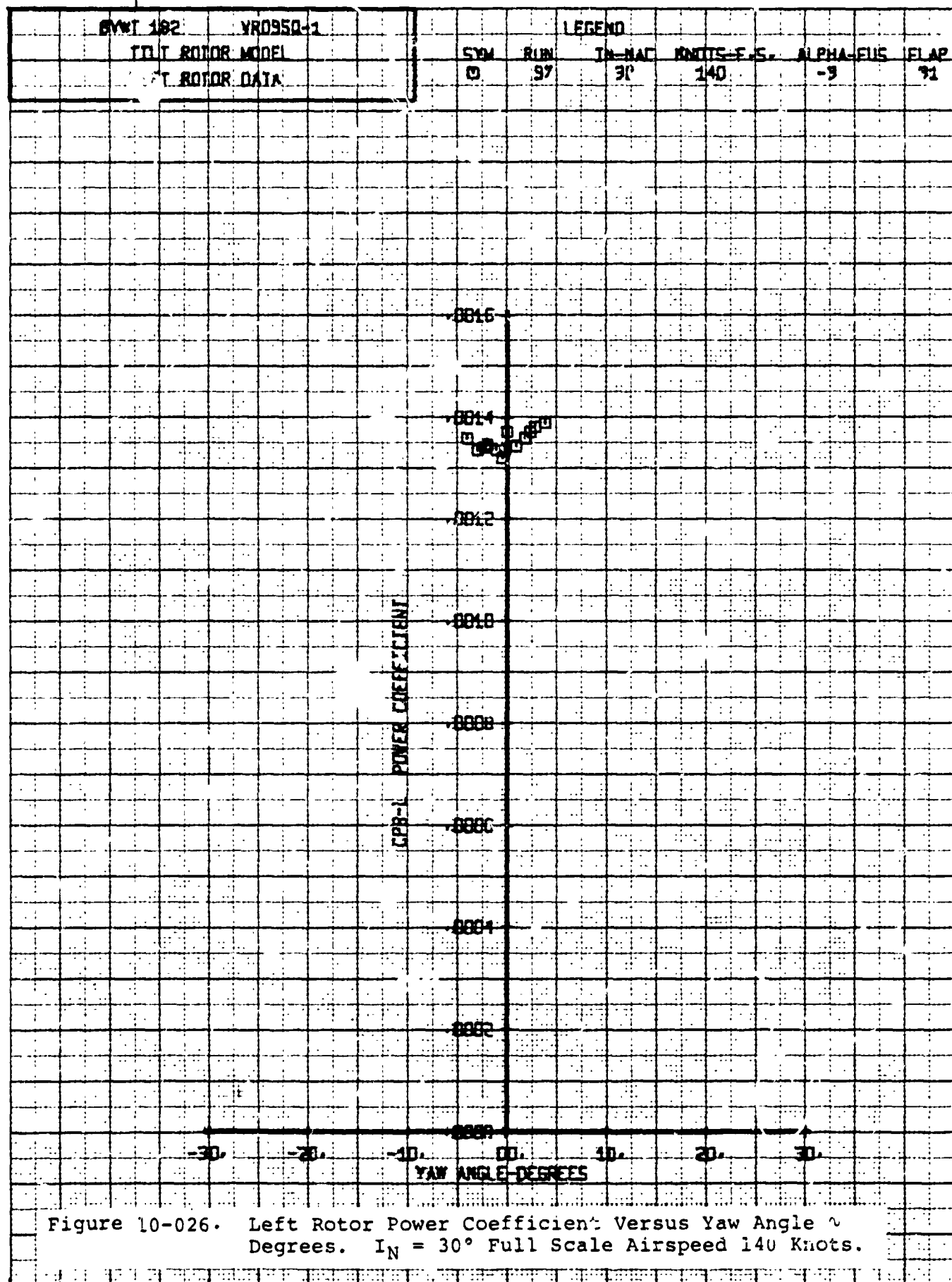
Figure 10-024. Alt. Right Pitch Link Load Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

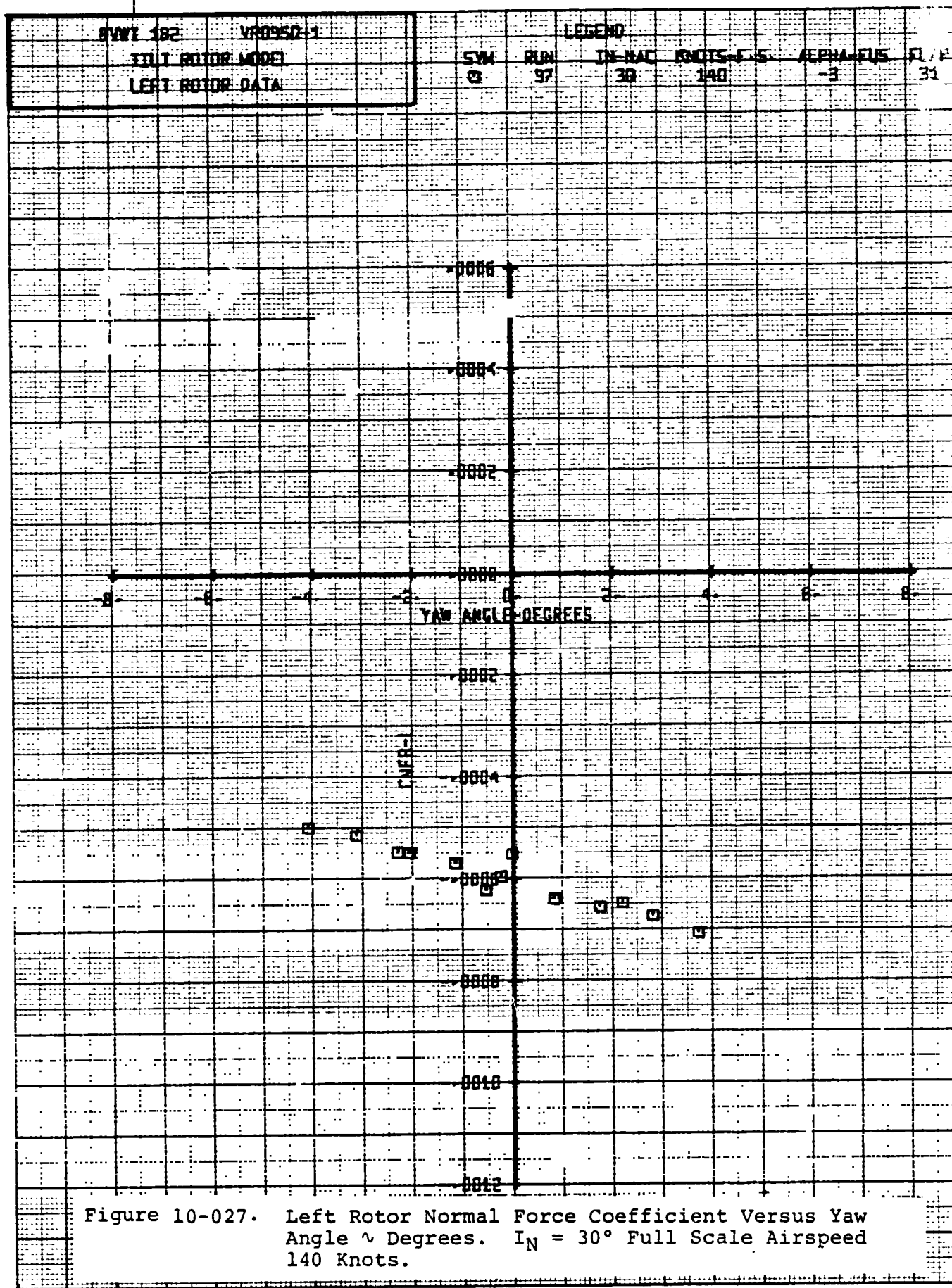


BVWT 182	VR050-1	LEGEND					
LEFT ROTOR MODEL		SYM	RUN	IN-NAE	KNOTS-F.S.	ALPHA-FUS	FLAP
LEFT ROTOR DATA		Q	97	30	140	-3	31

Figure 10-025. Left Rotor Thrust Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.







BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	97	30	140	-3
						31

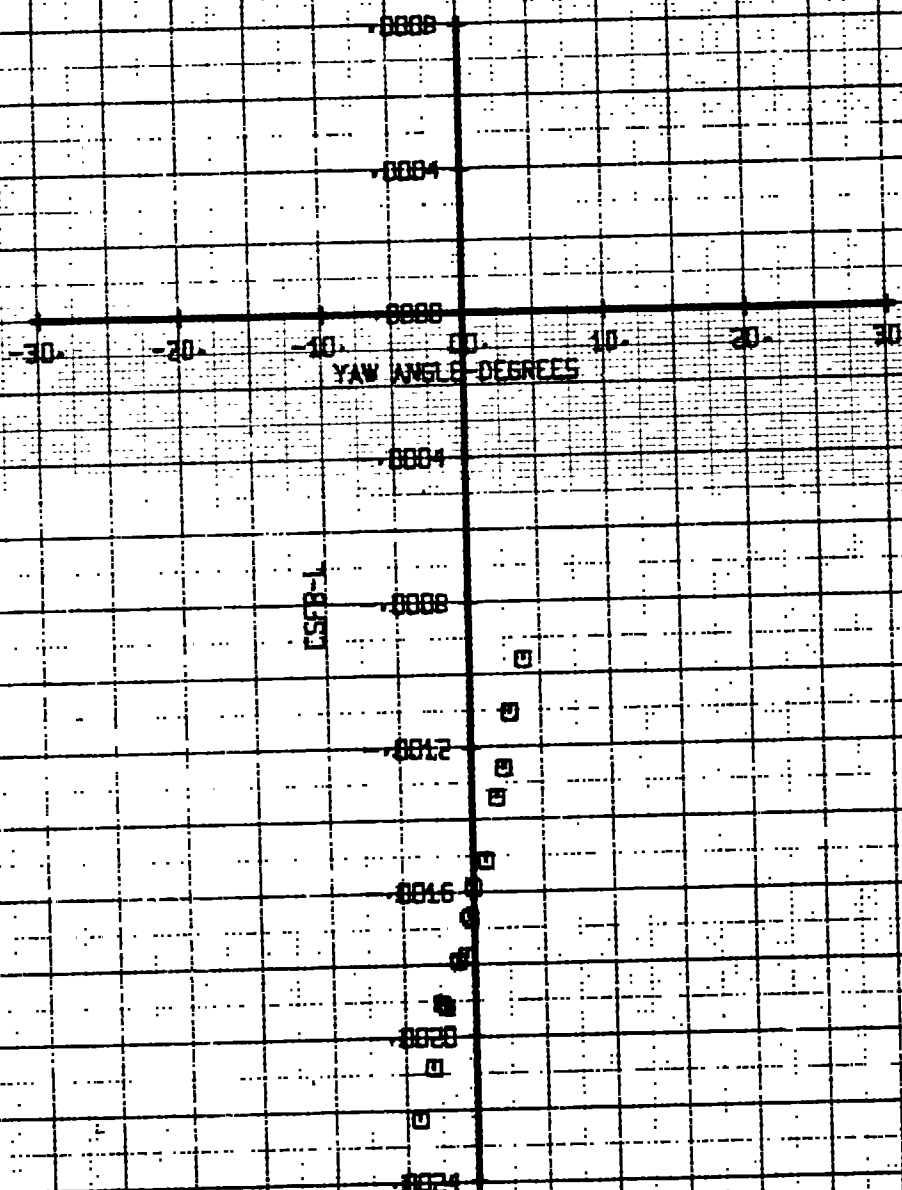
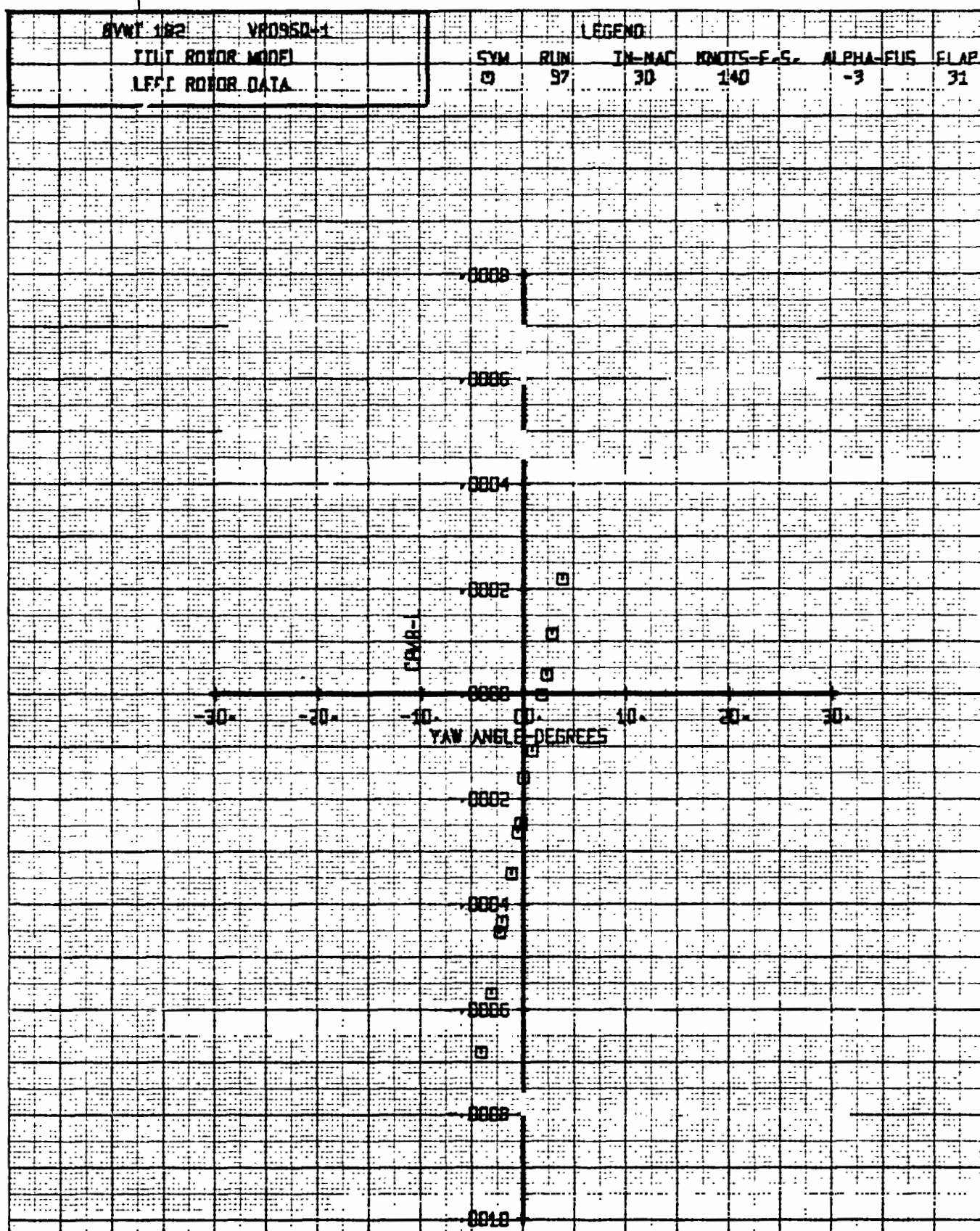
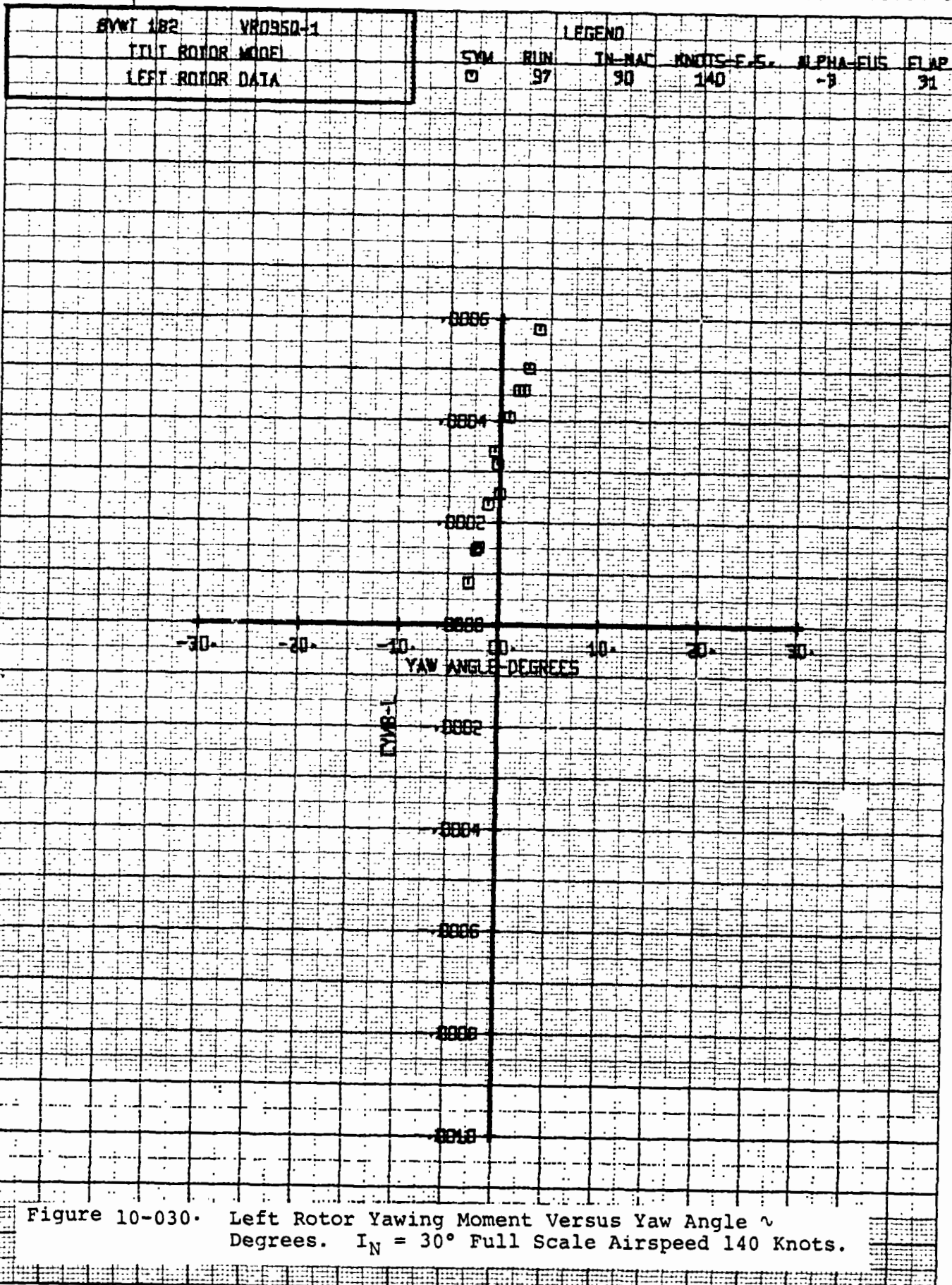


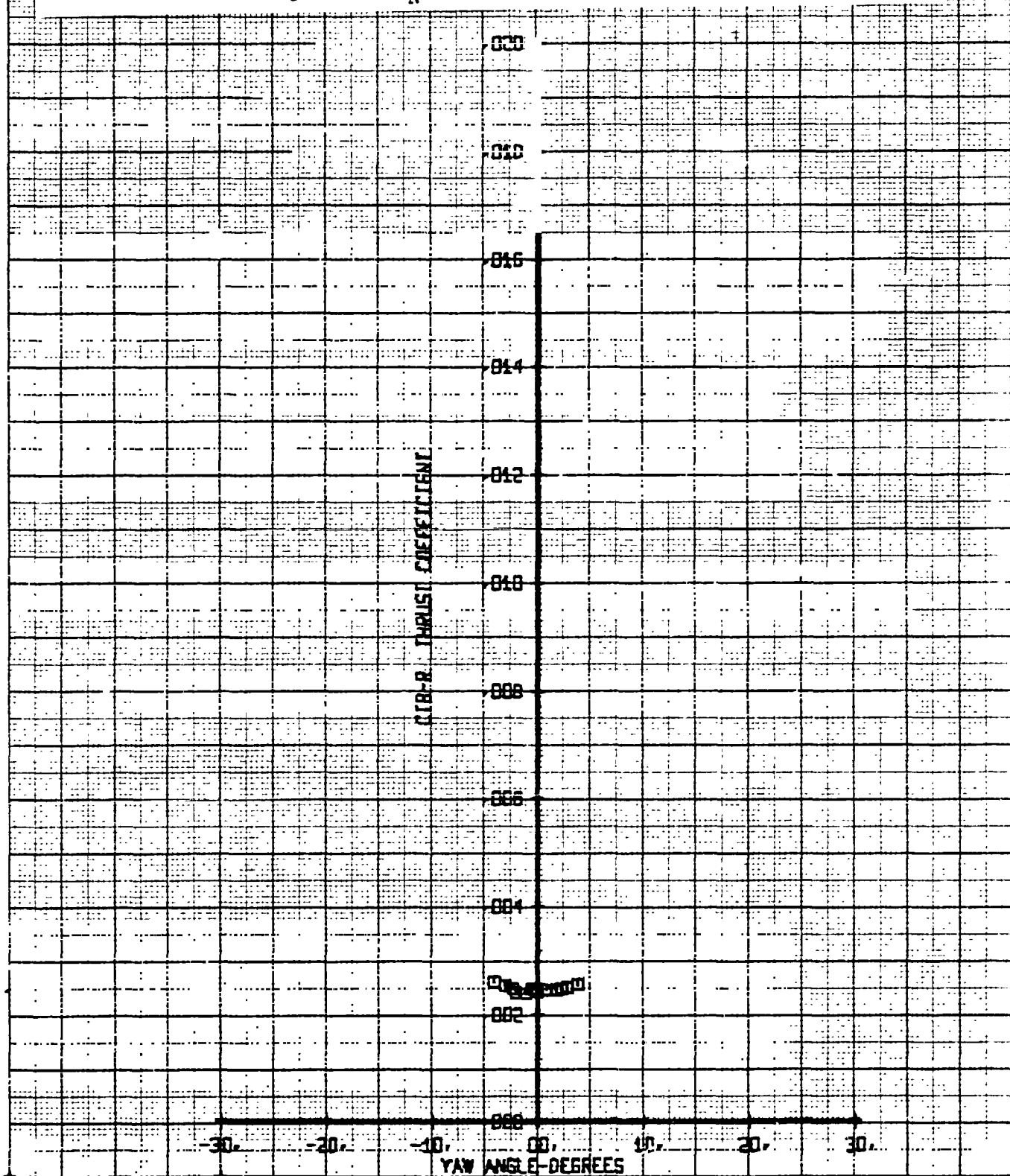
Figure 10-028. Left Rotor Side Force Coefficient Versus Yaw Angle in Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





BYWT 182	VR0950-1	SYN	RIIN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP
UTILITY ROTOR MODEL		0	97	30	140	-3	31
RIGHT ROTOR DATA							

Figure 10-031. Right Rotor Thrust Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



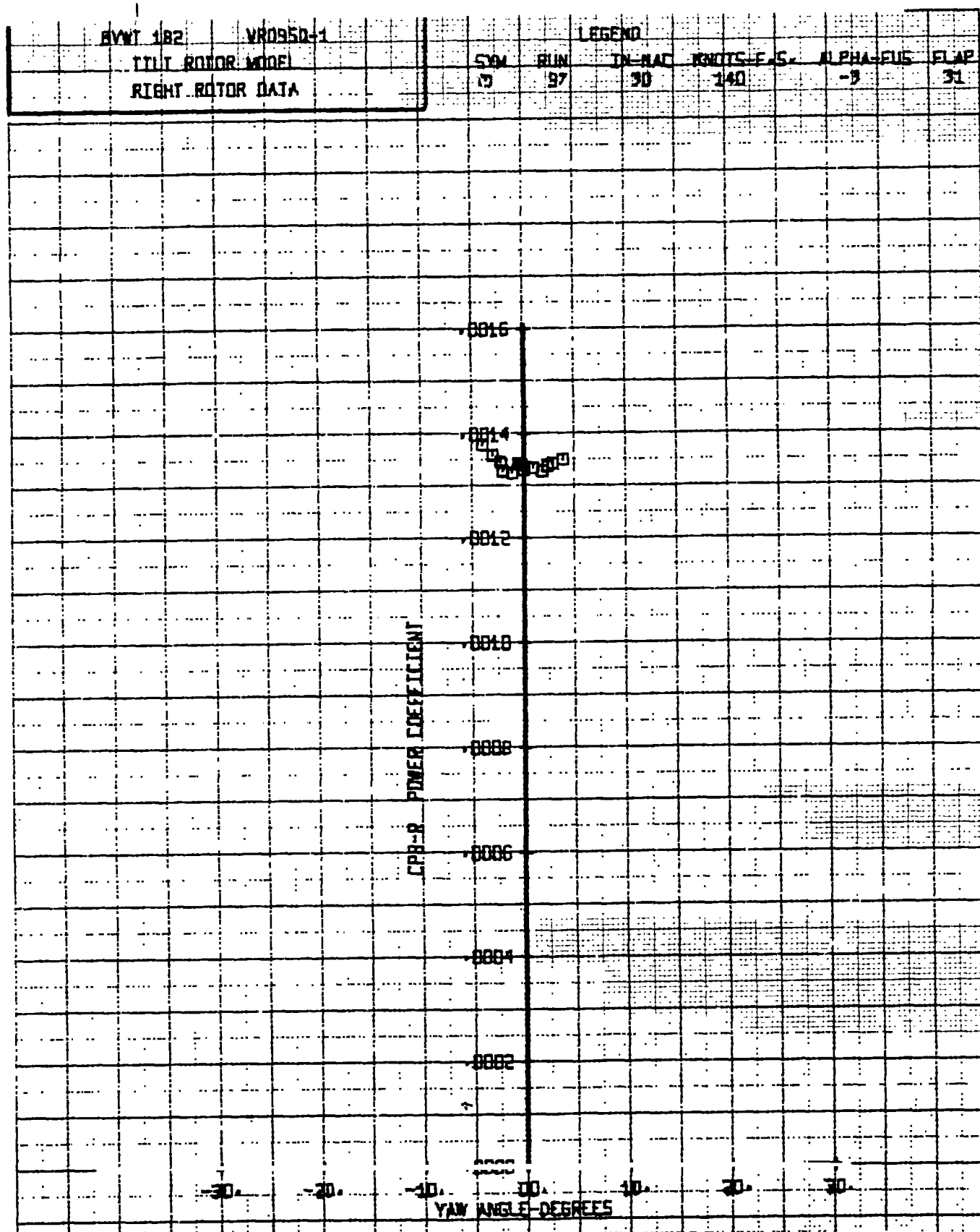
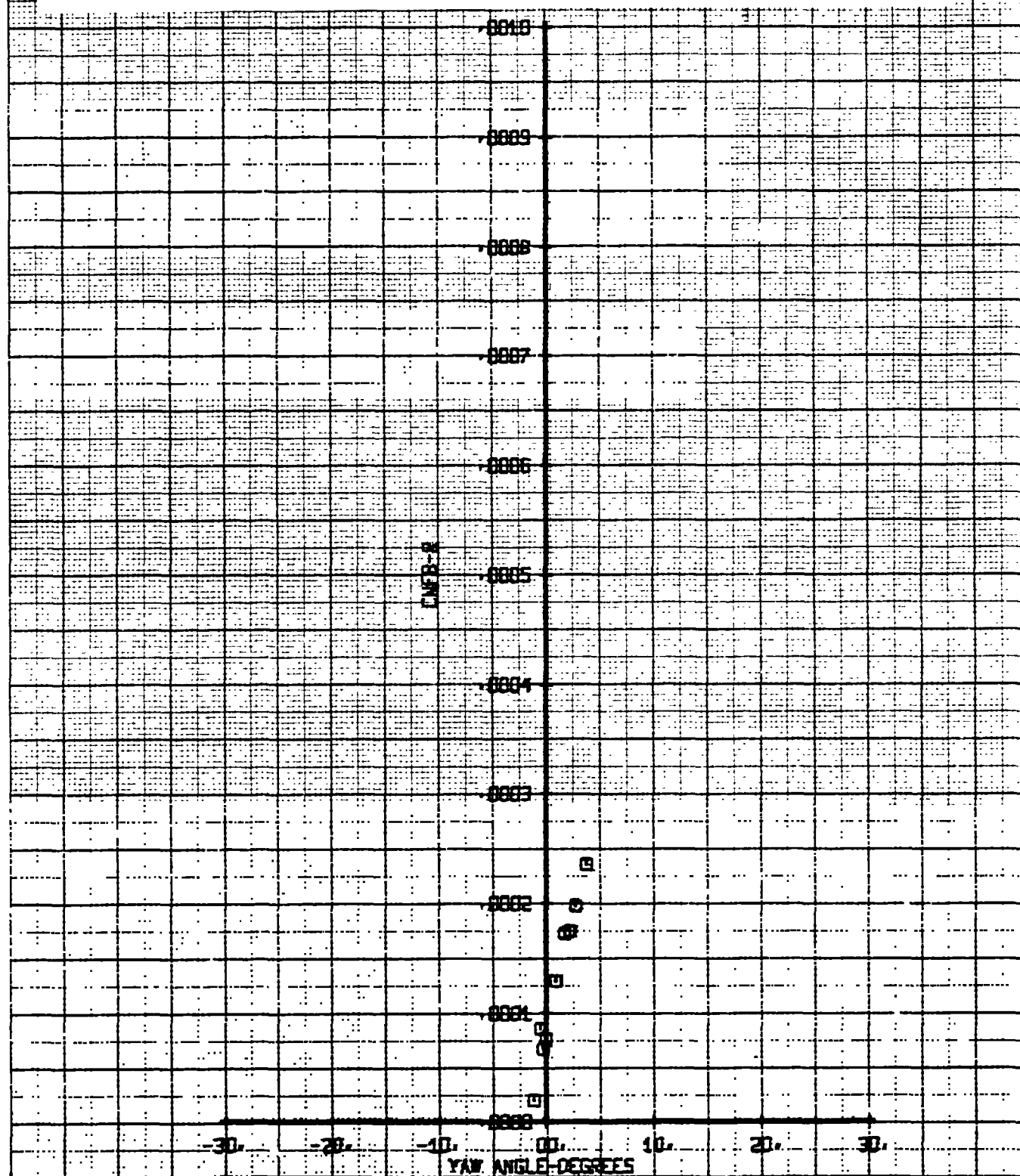
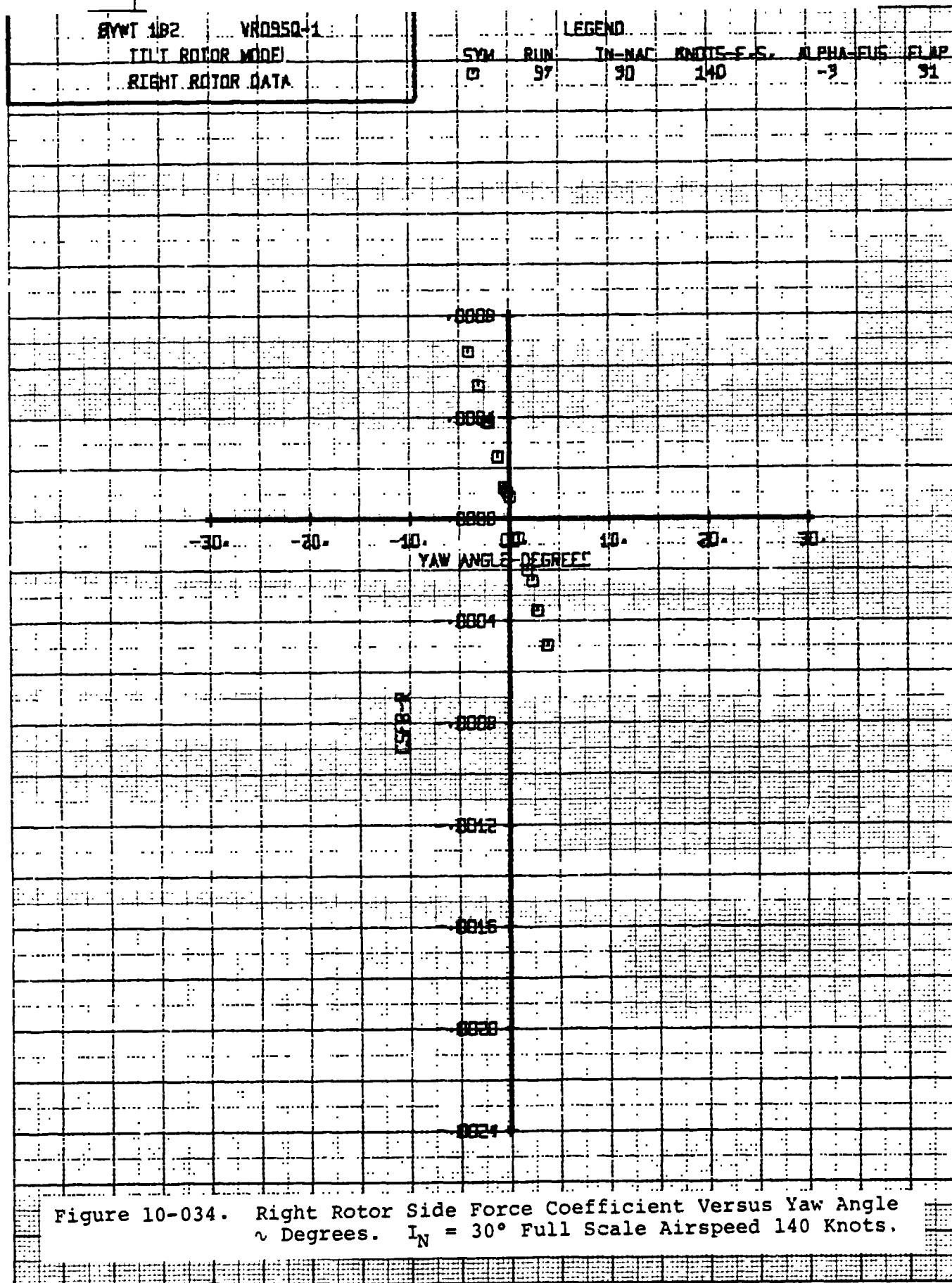


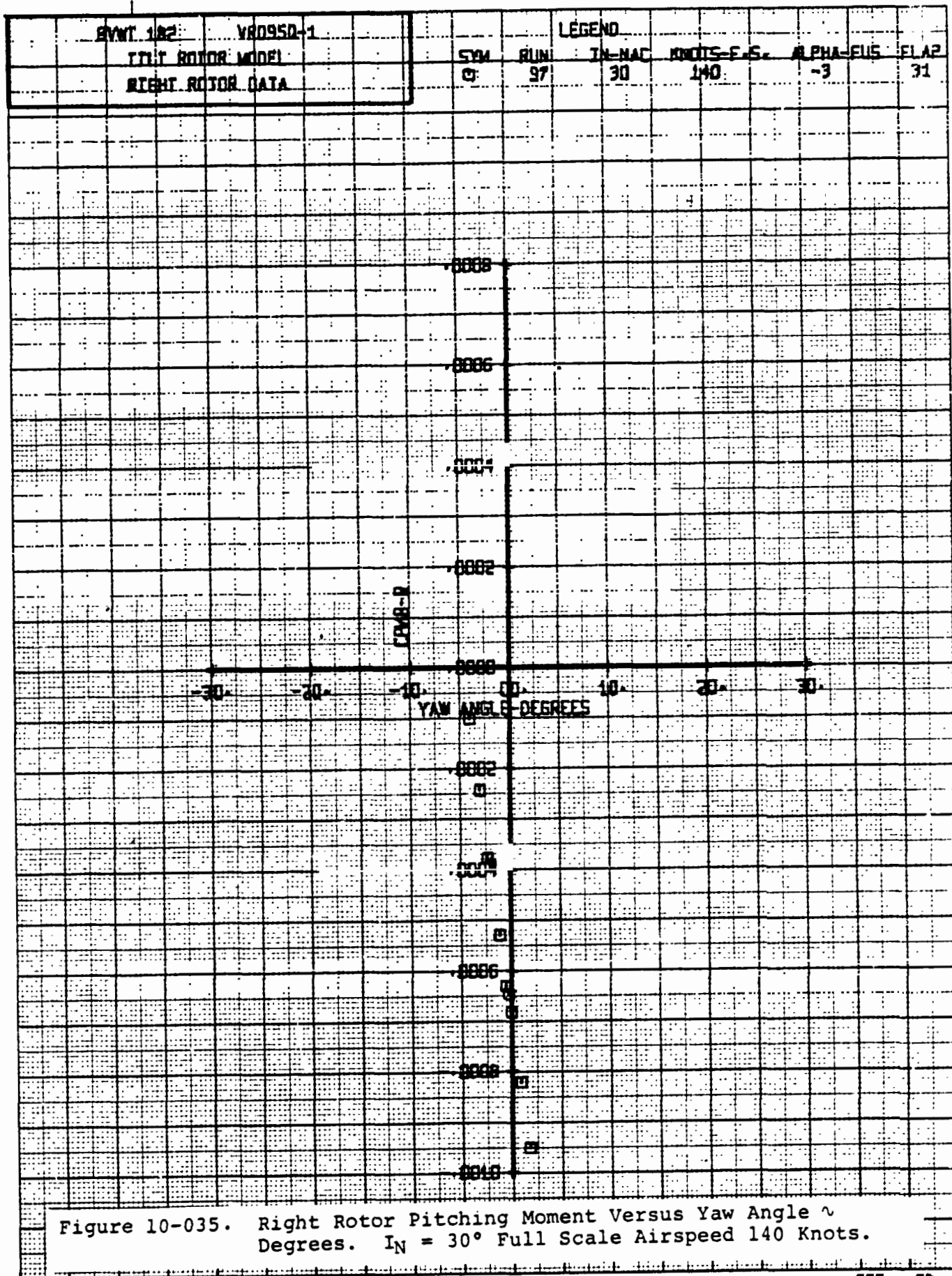
Figure 10-032. Right Rotor Power Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

SYNOPSIS		LEGEND					
SYNOPSIS	MODEL	SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR	ATA	0	97	30	140	-3	31

Figure 10-033. Right Rotor Normal Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.







BVWT 182	VR0950-1	LEGEND			
LEFT ROTOR MODEL		SYM	RUN	IN-HAT	KNOTS-F.F.S.
RIGHT ROTOR DATA		D	97	90	140
					ALPHA-FUS
					-9
					FLAP
					91

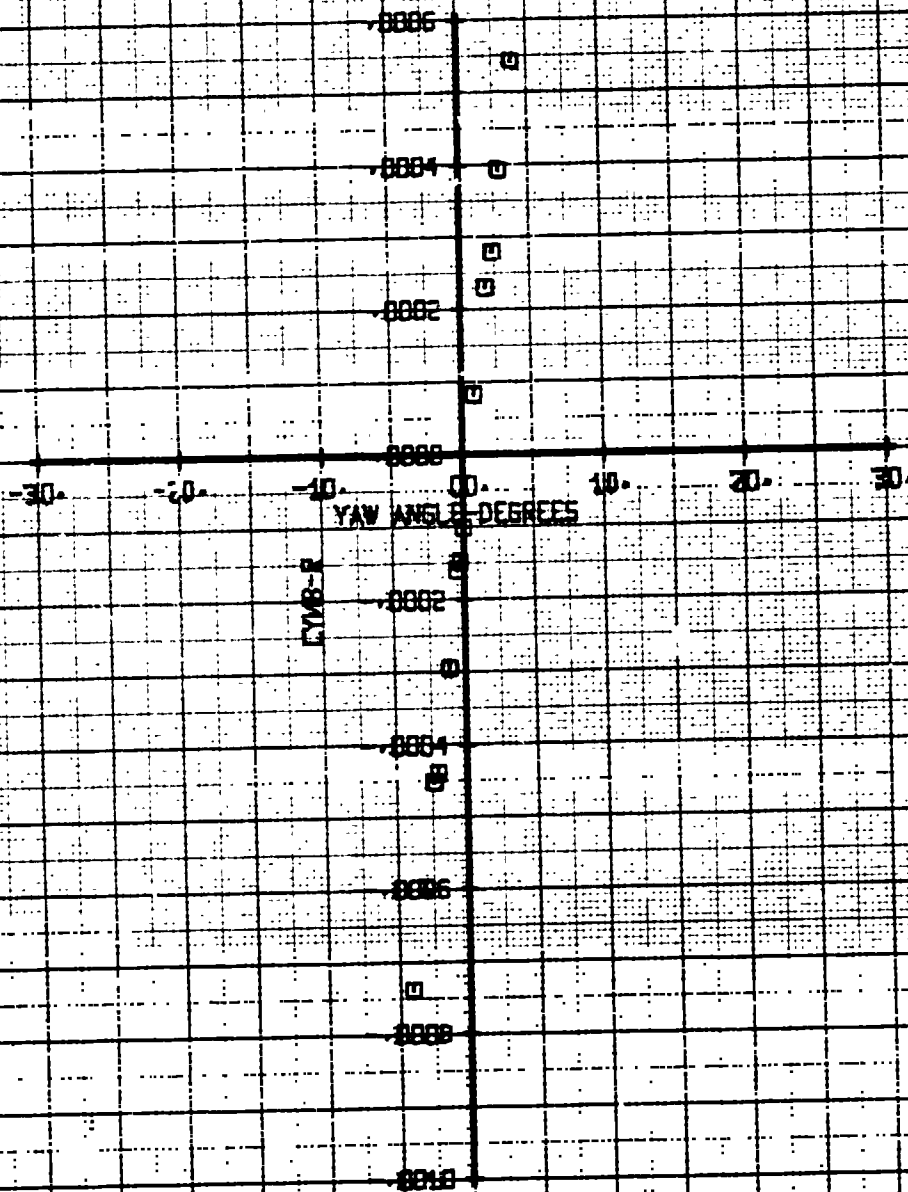
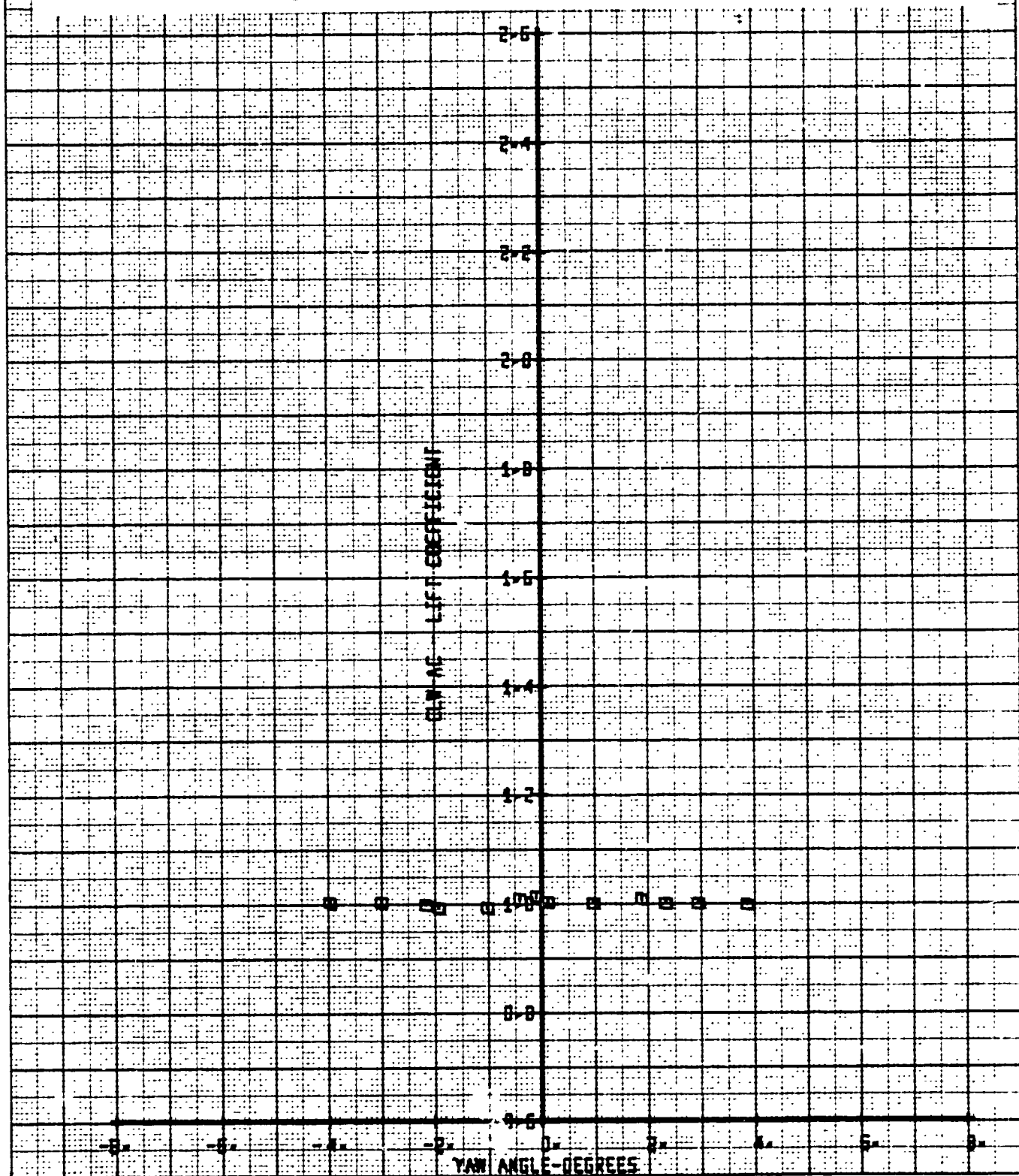
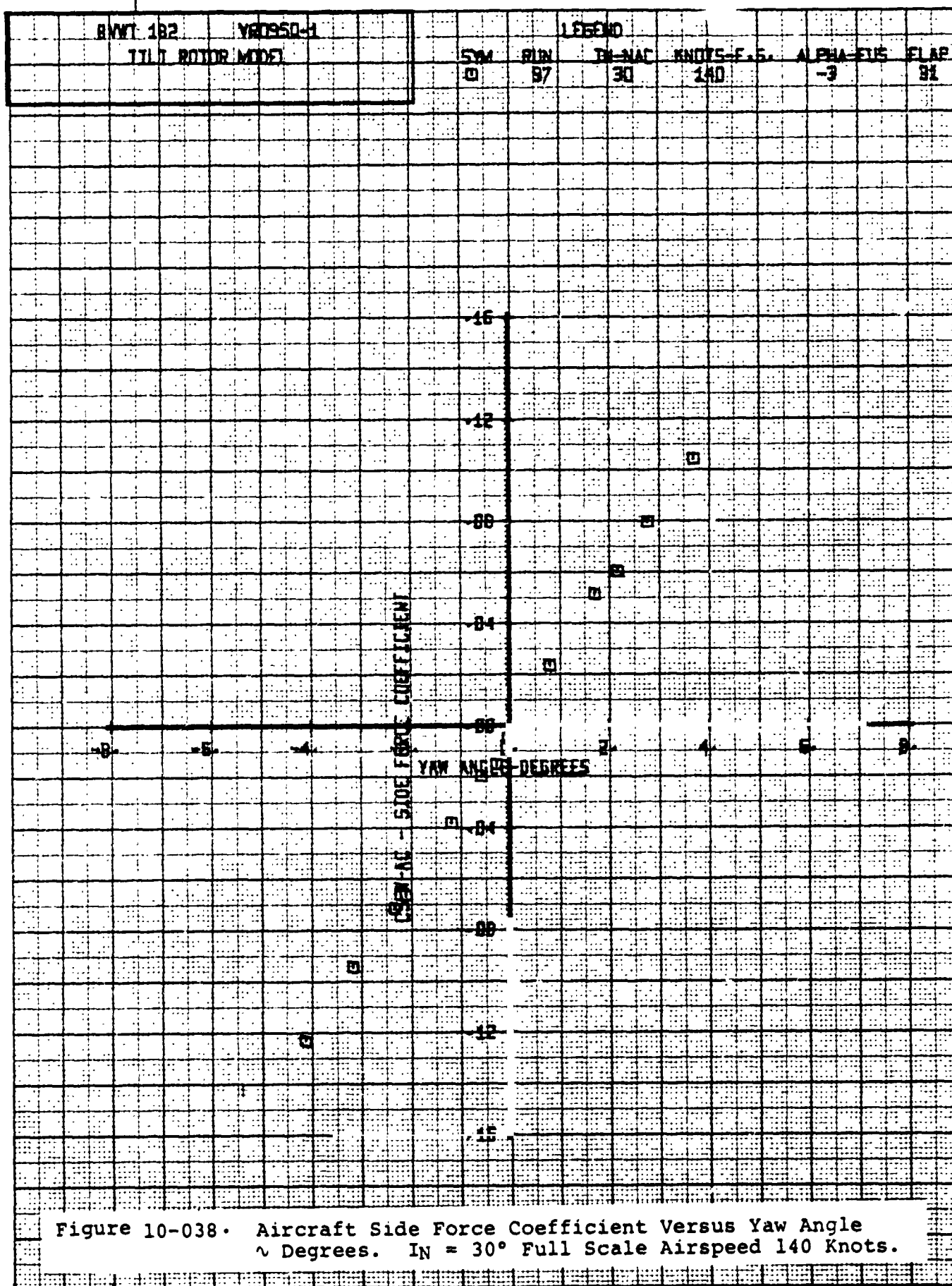


Figure 10-036. Right Rotor Yawing Moment Versus Yaw Angle Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182		VR0950-1		LEGEND				
TIT 000000		MIN 97		TN-NAT 30		KNOTS F.F. 140		PHA-FUS -3
								FLAP 31

Figure 10-037. Aircraft Lift Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





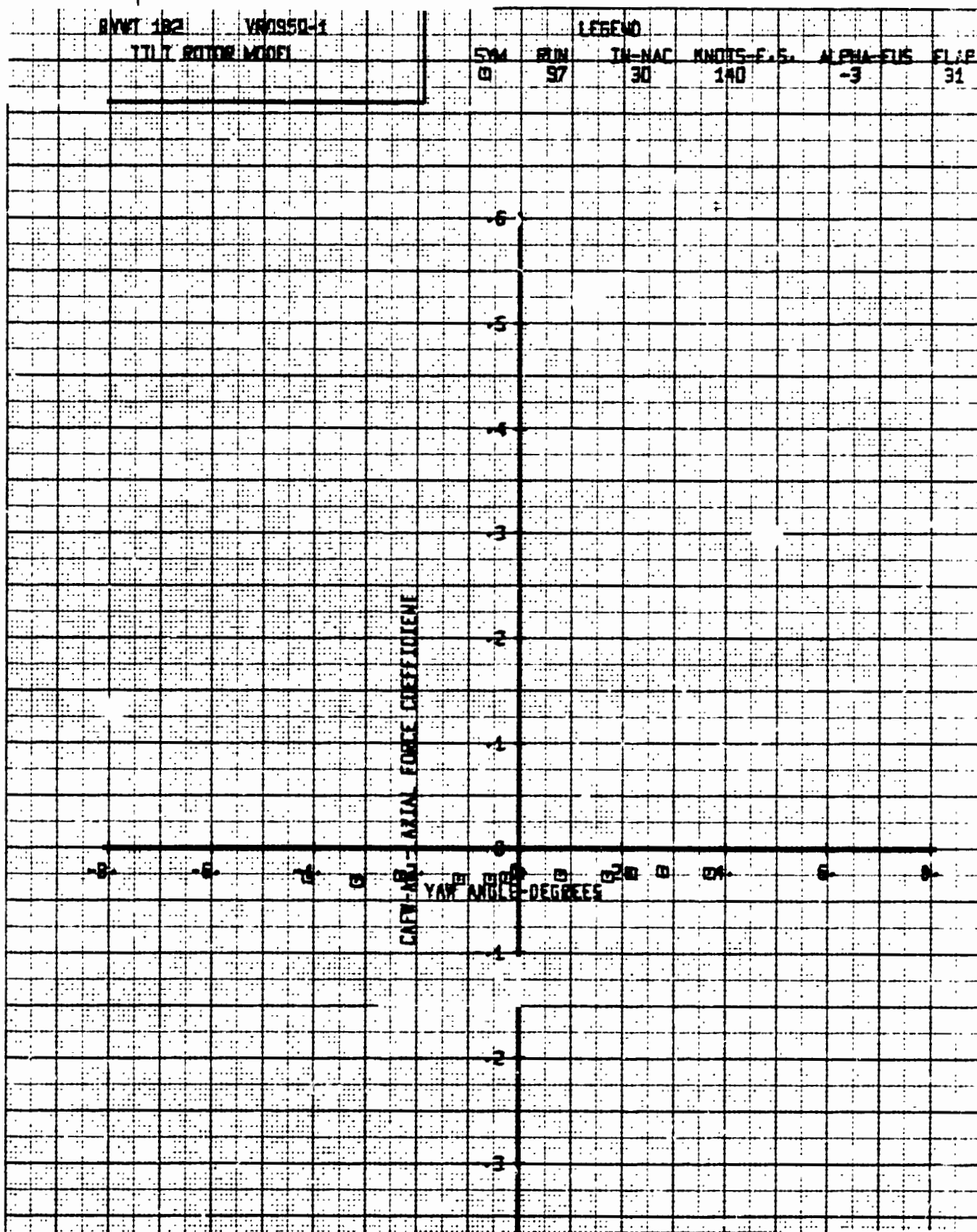
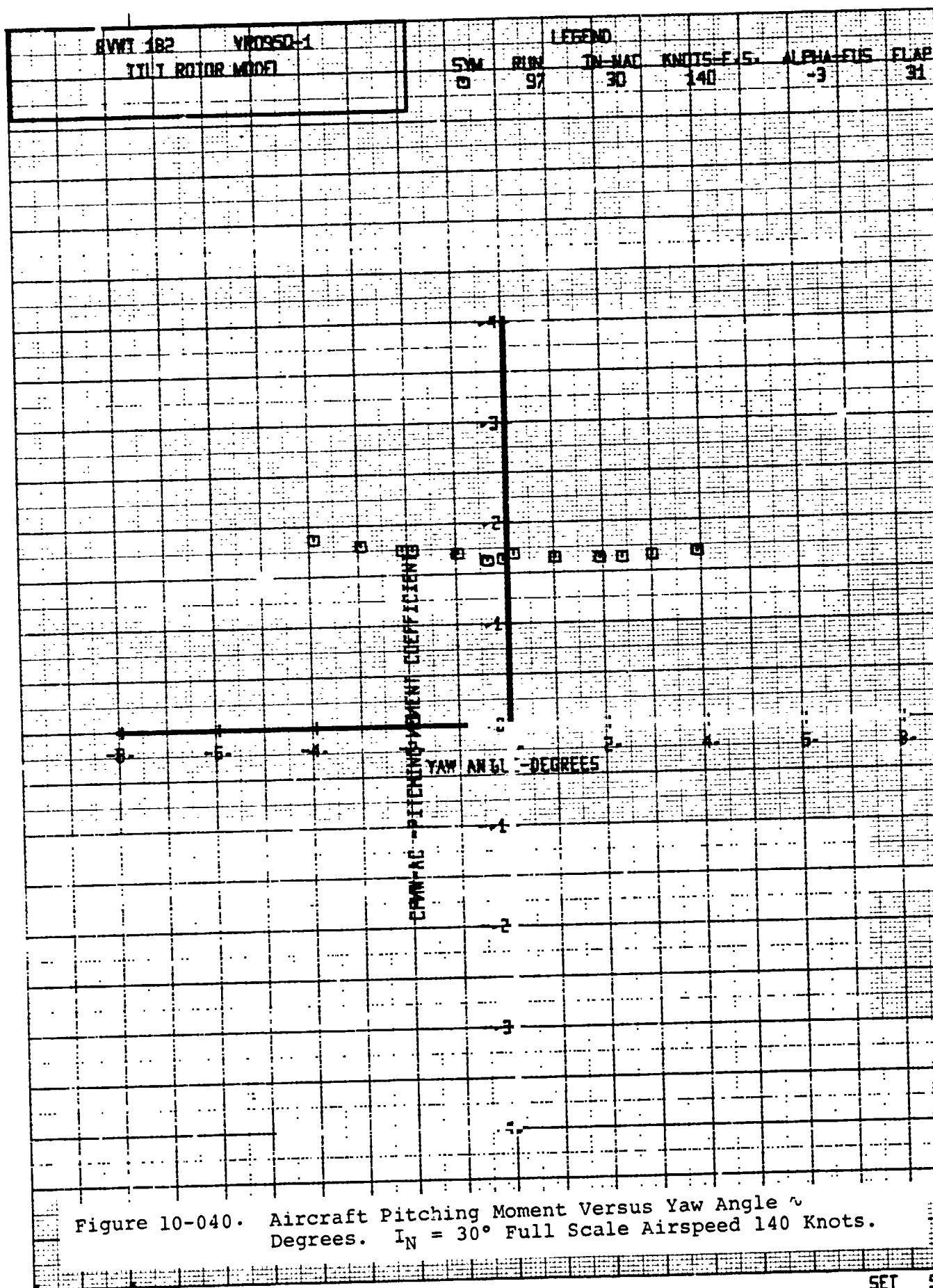


Figure 10-039. Aircraft Axial Force Coefficient Versus Yaw Angle
 \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



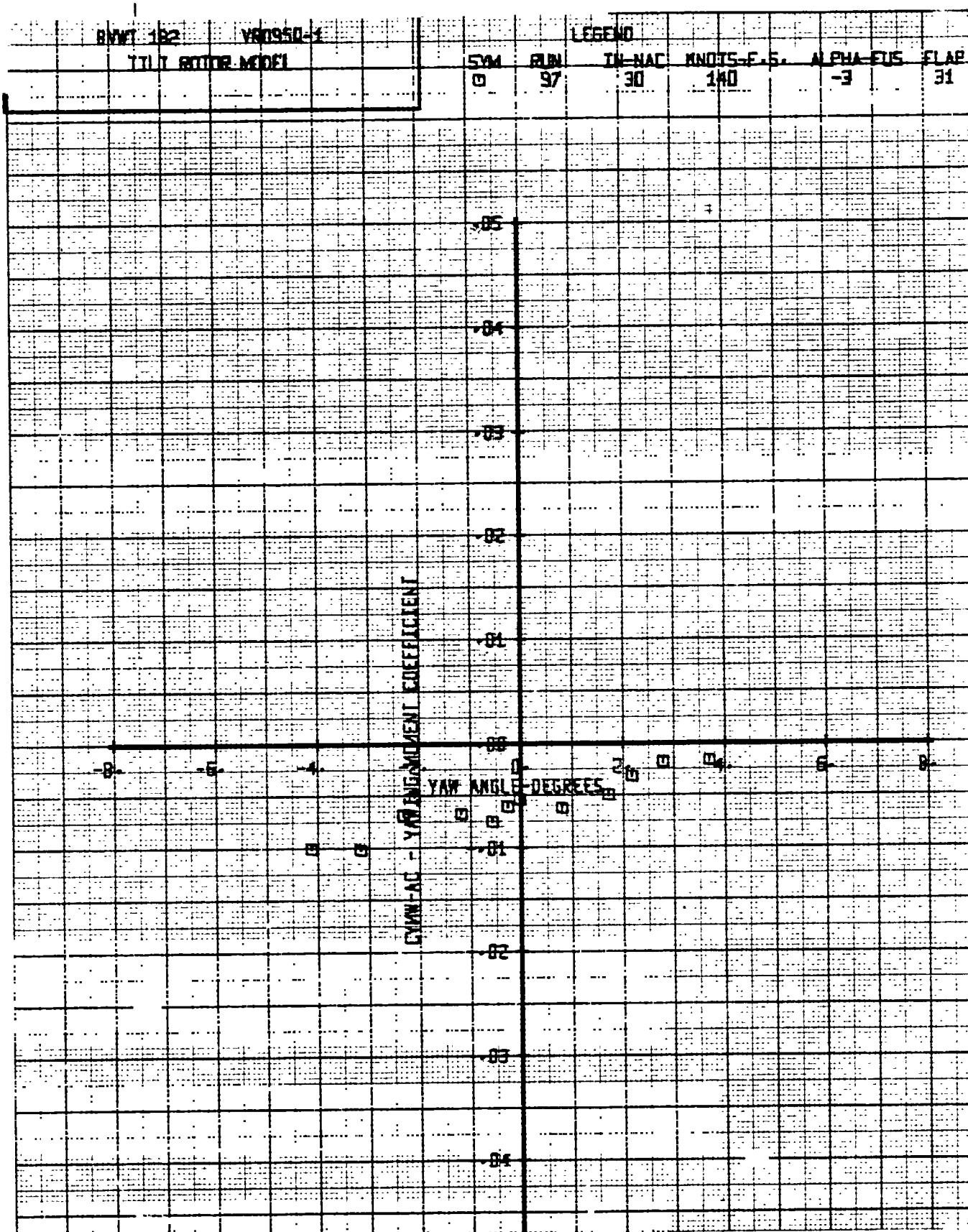


Figure 10-041. Aircraft Yawing Moment Versus Yaw Angle ~ Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

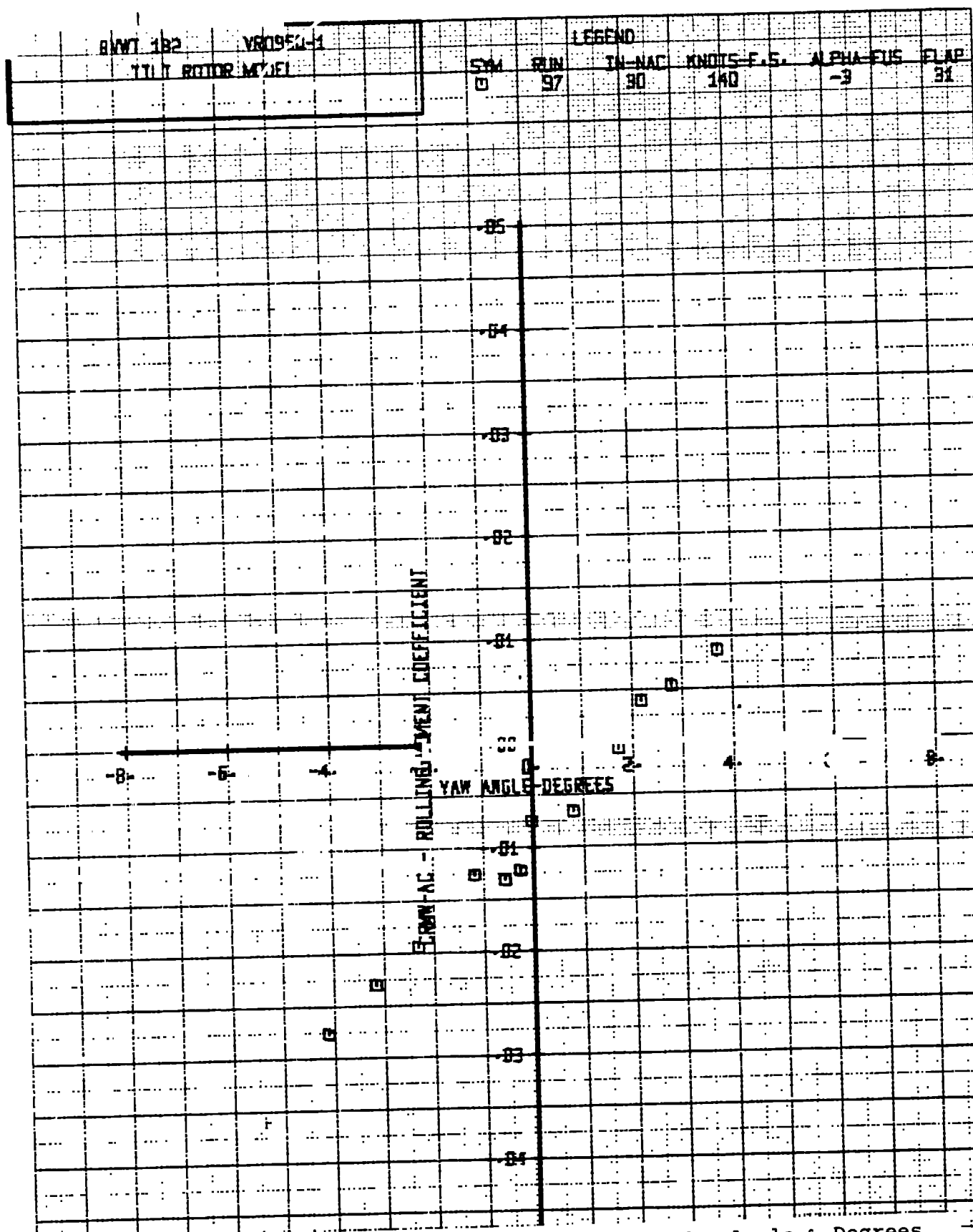
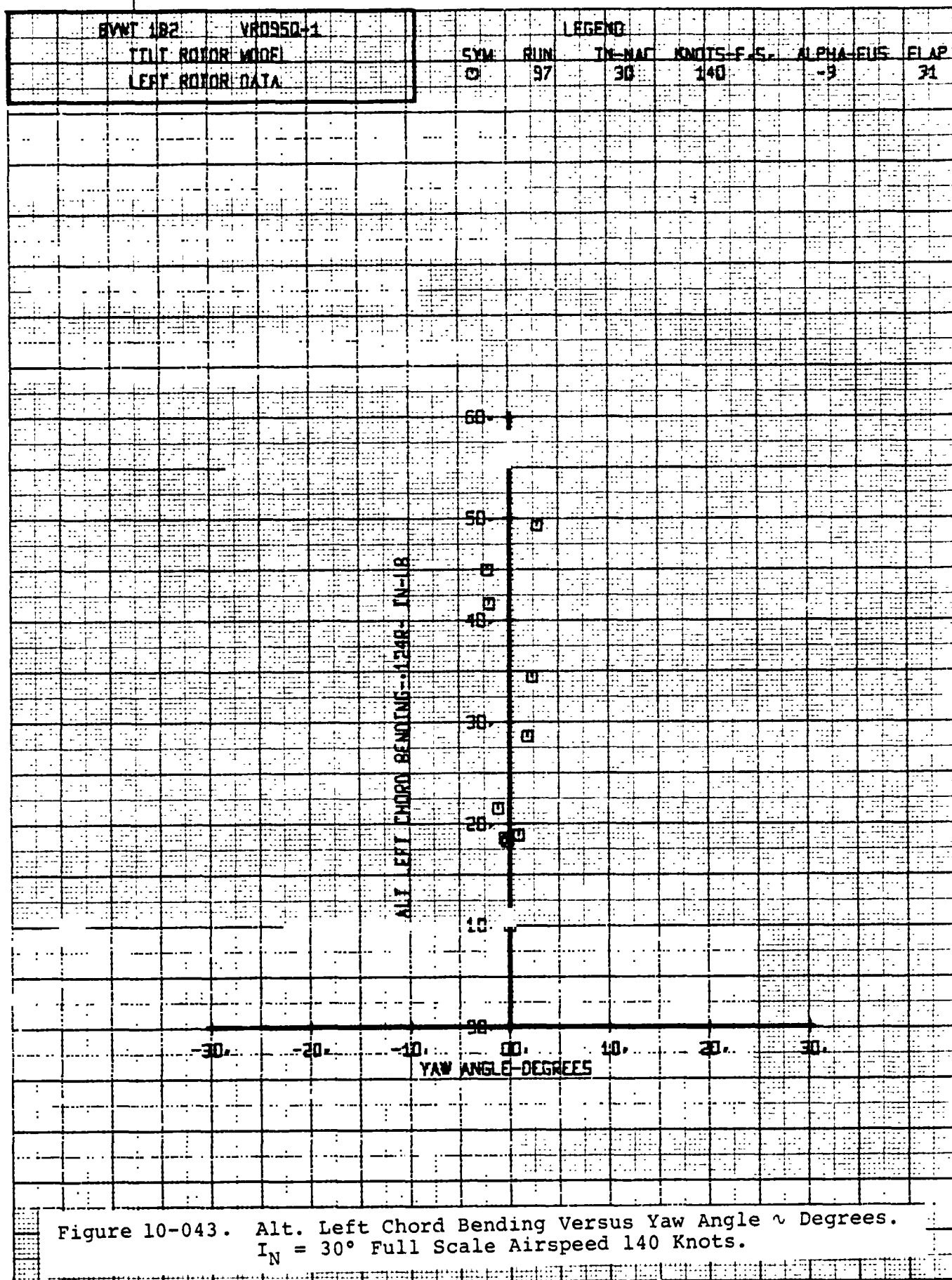
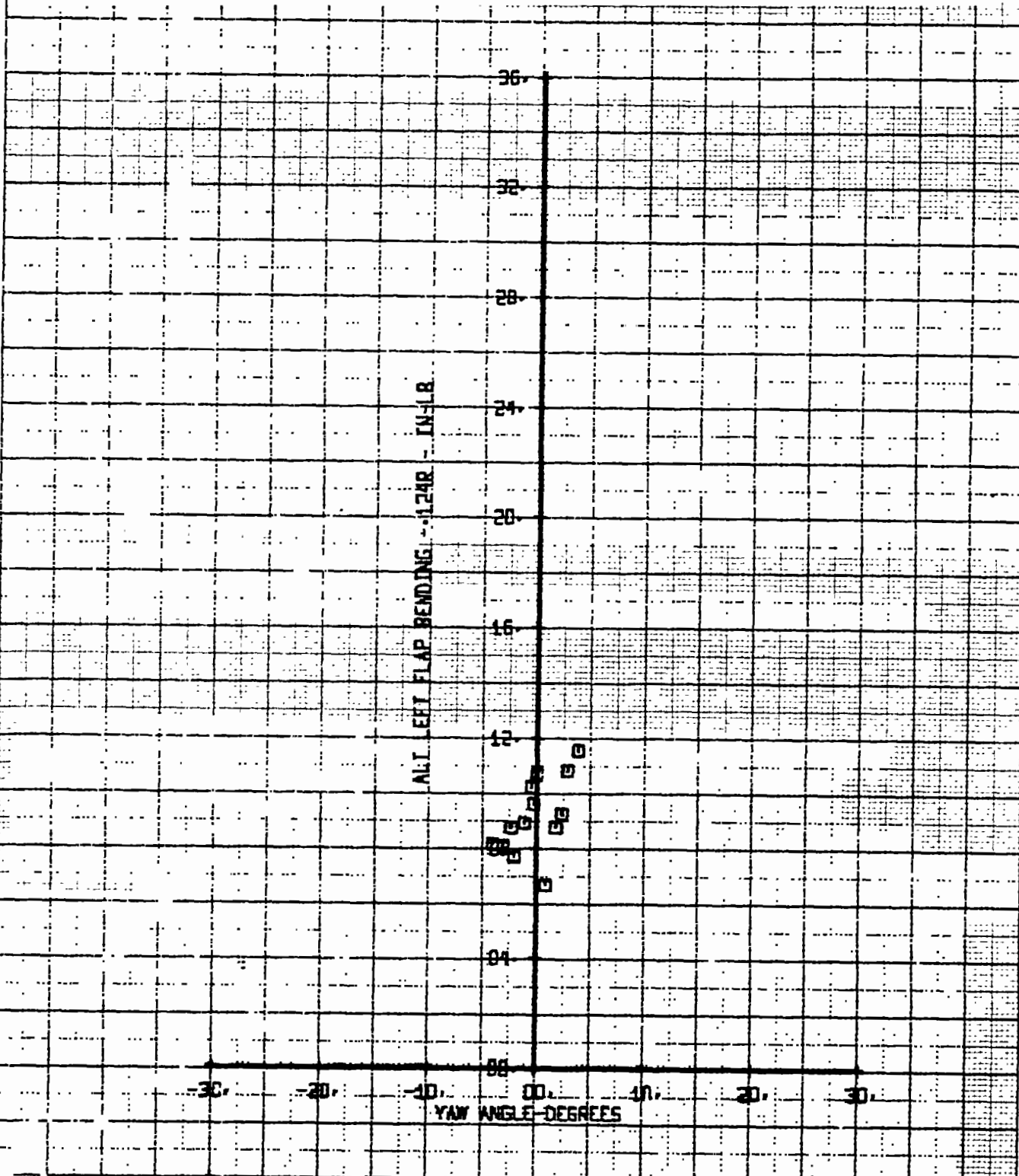


Figure 10-042. Aircraft Rolling Moment Versus Yaw Angle ψ Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



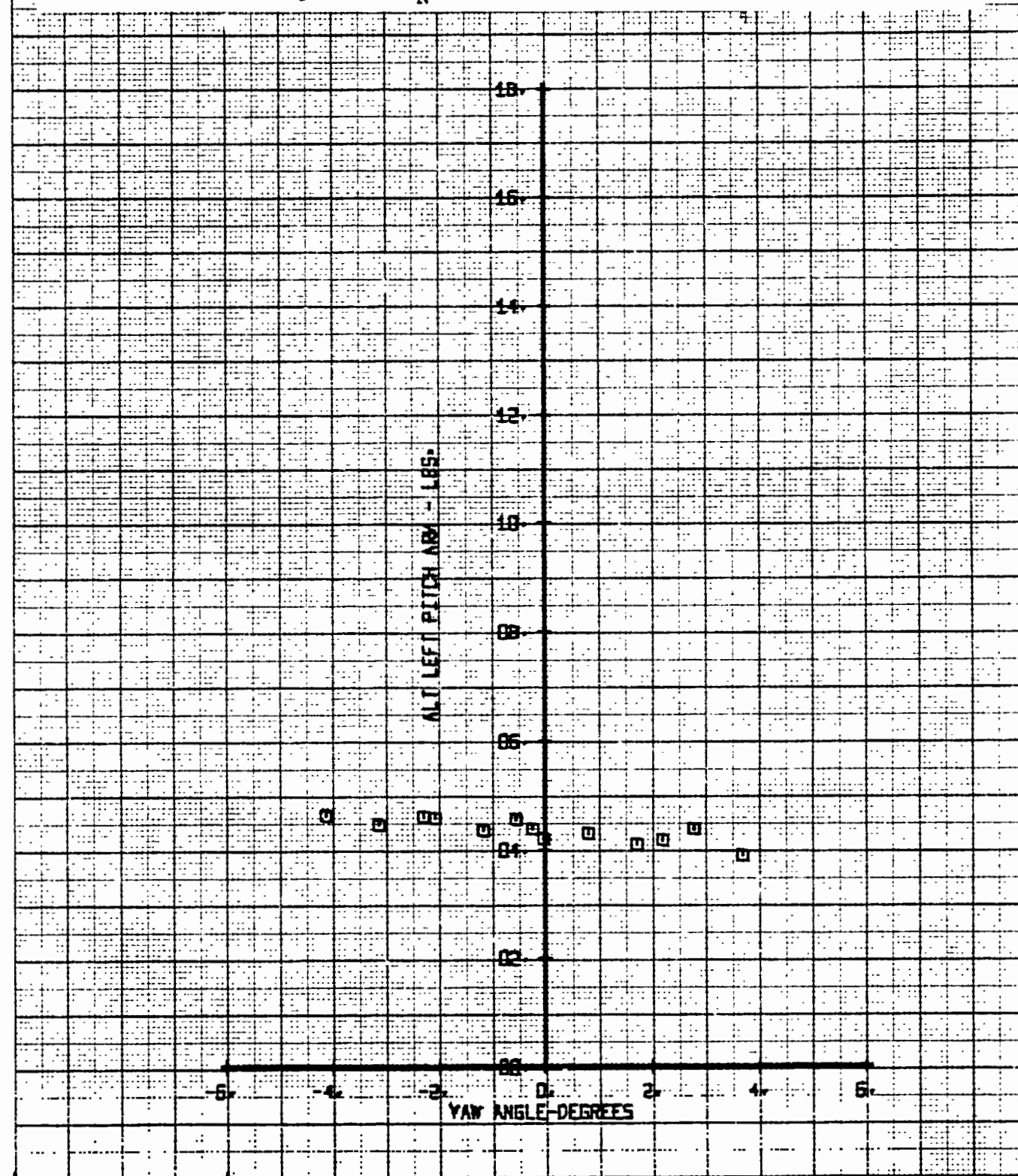
BVWT 182	VR0950-1	LEGEND				
TILT MOTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT MOTOR DATA		0	97	30	140	-3
						FLAP 31

Figure 10-14. Alt. Left Flap Bending Versus Yaw Angle α Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



BWV 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA
LEFT ROTOR DATA		□	97	30	140	-3
						FLAP
						31

Figure 10-045. Alt. Left Pitch Link Load Versus Yaw Angle ~
Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



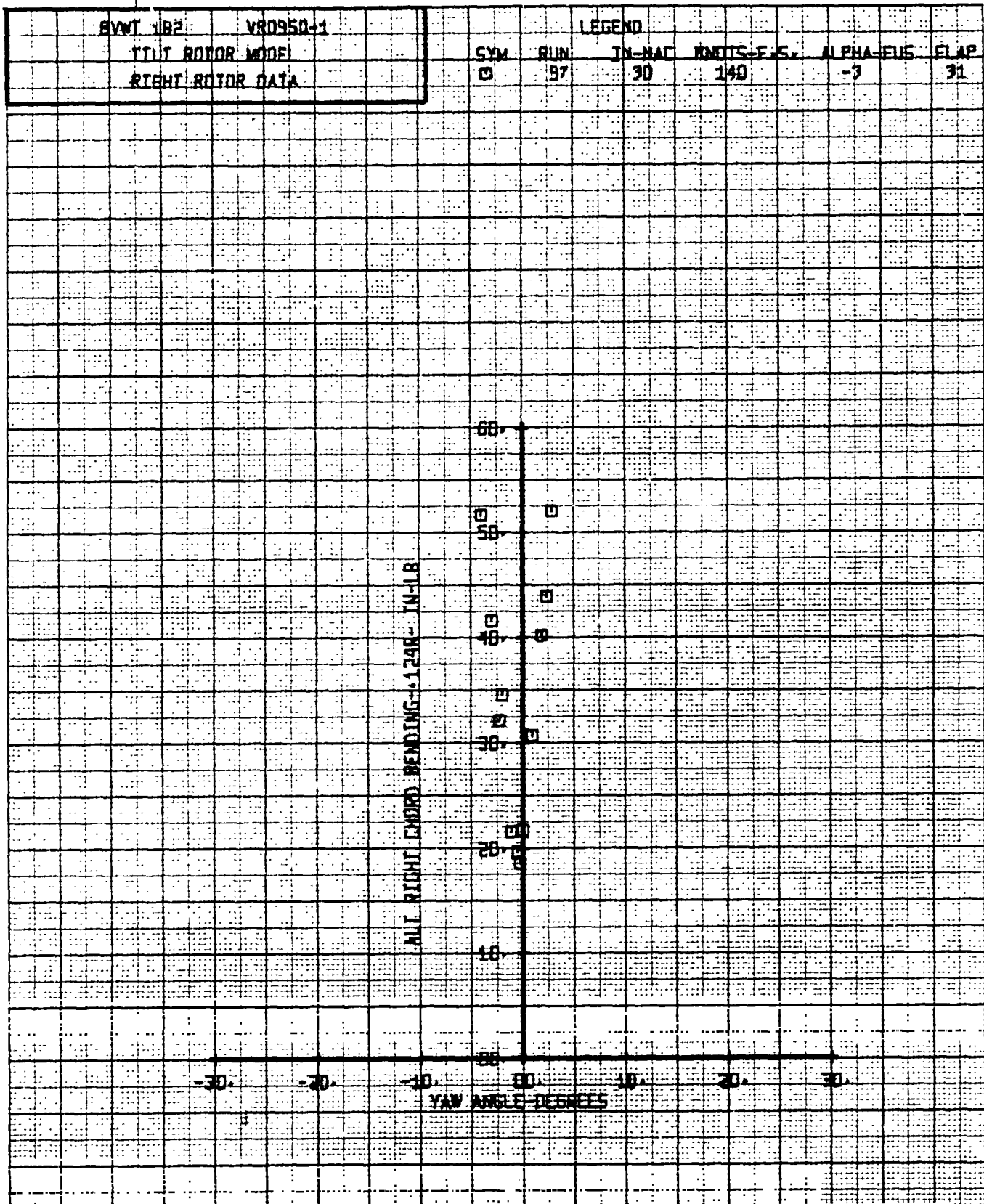
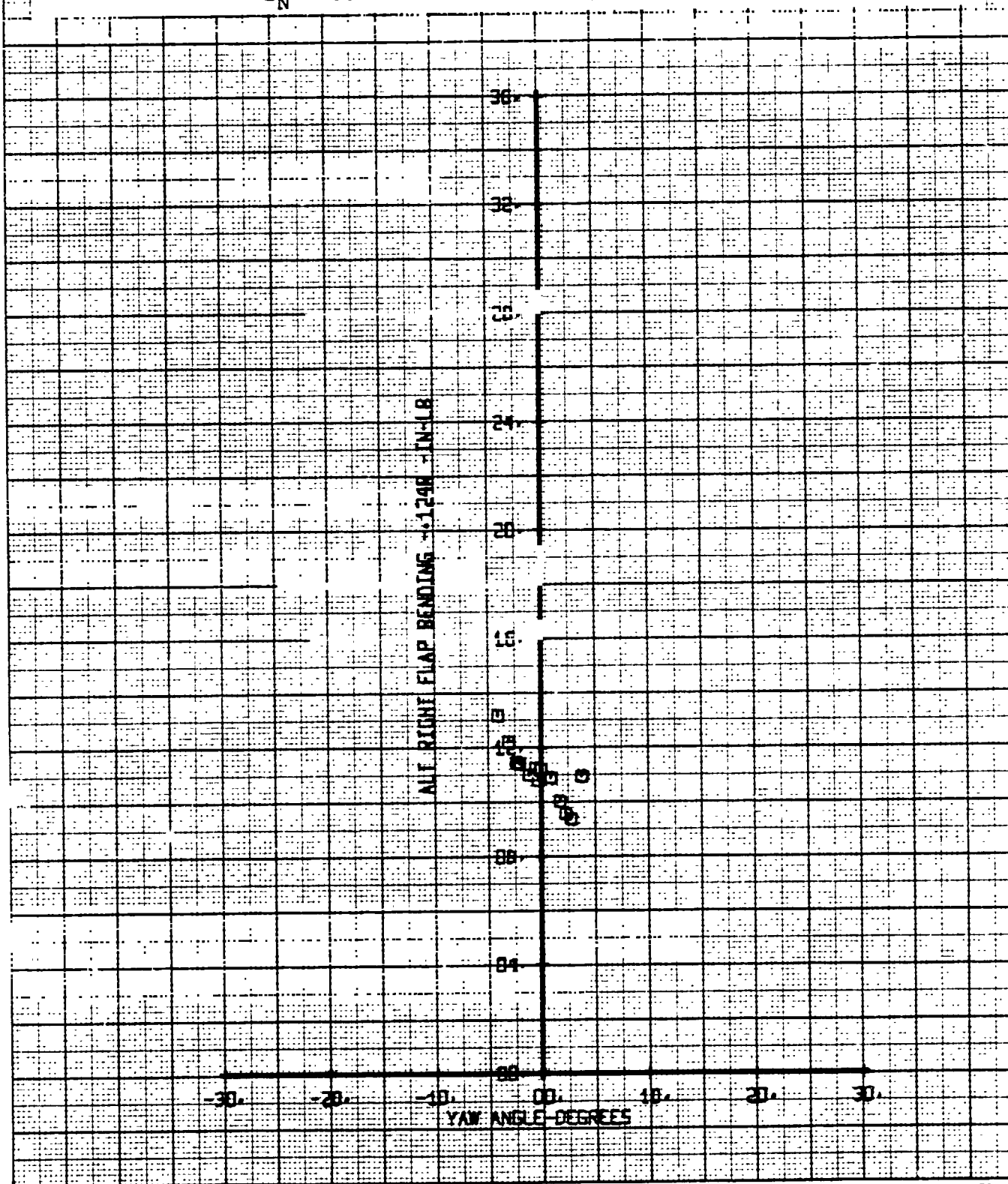


Figure 10-046. Alt. Right Chord Bending Versus Yaw Angle ~
Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	97	30	140	-3
						FLAP 31

Figure 10-047. Alt. Right Flap Bending Versus Yaw Angle α Degrees.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



BWWT 182 VR0950-1

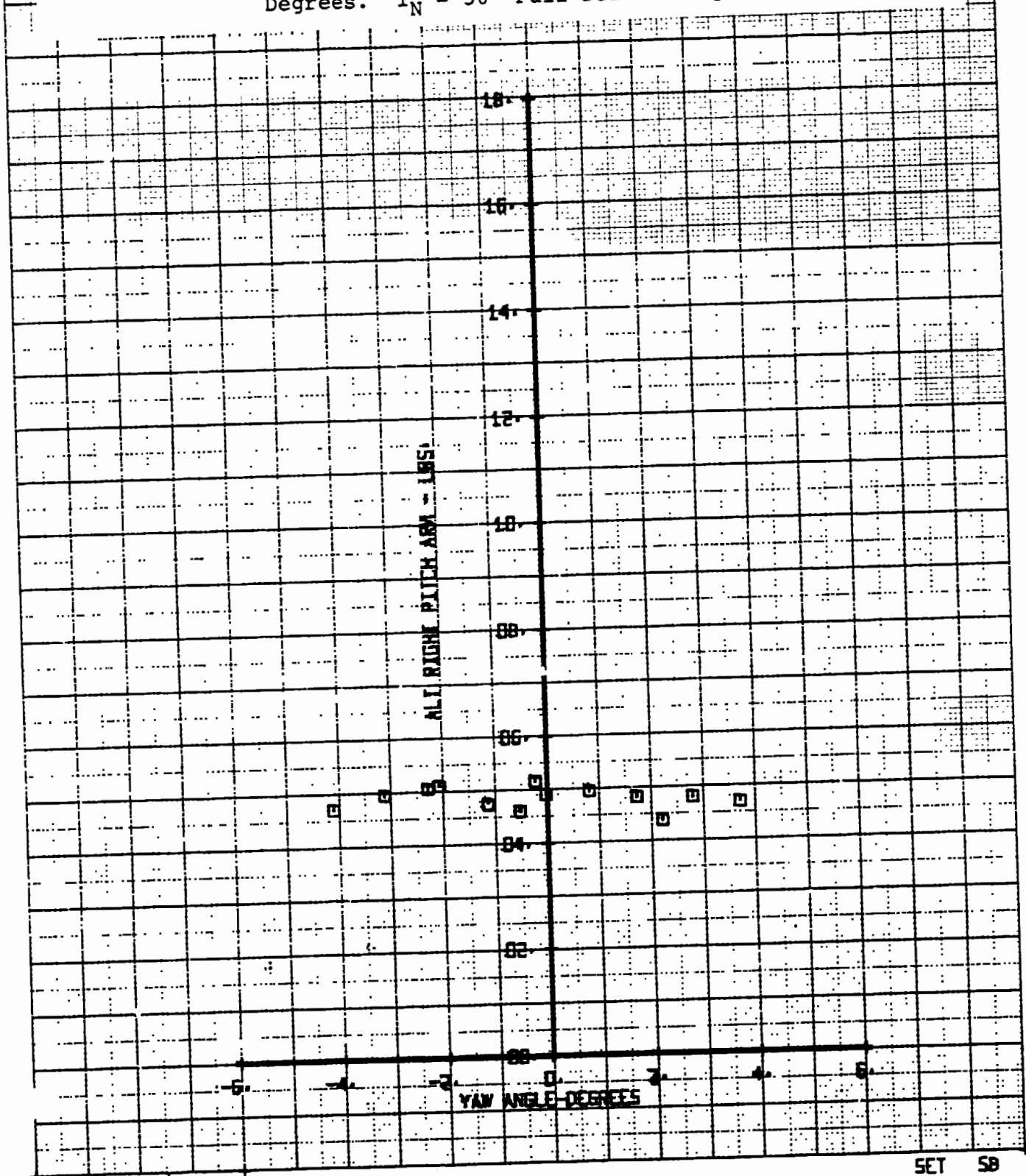
TILT ROTOR MODEL

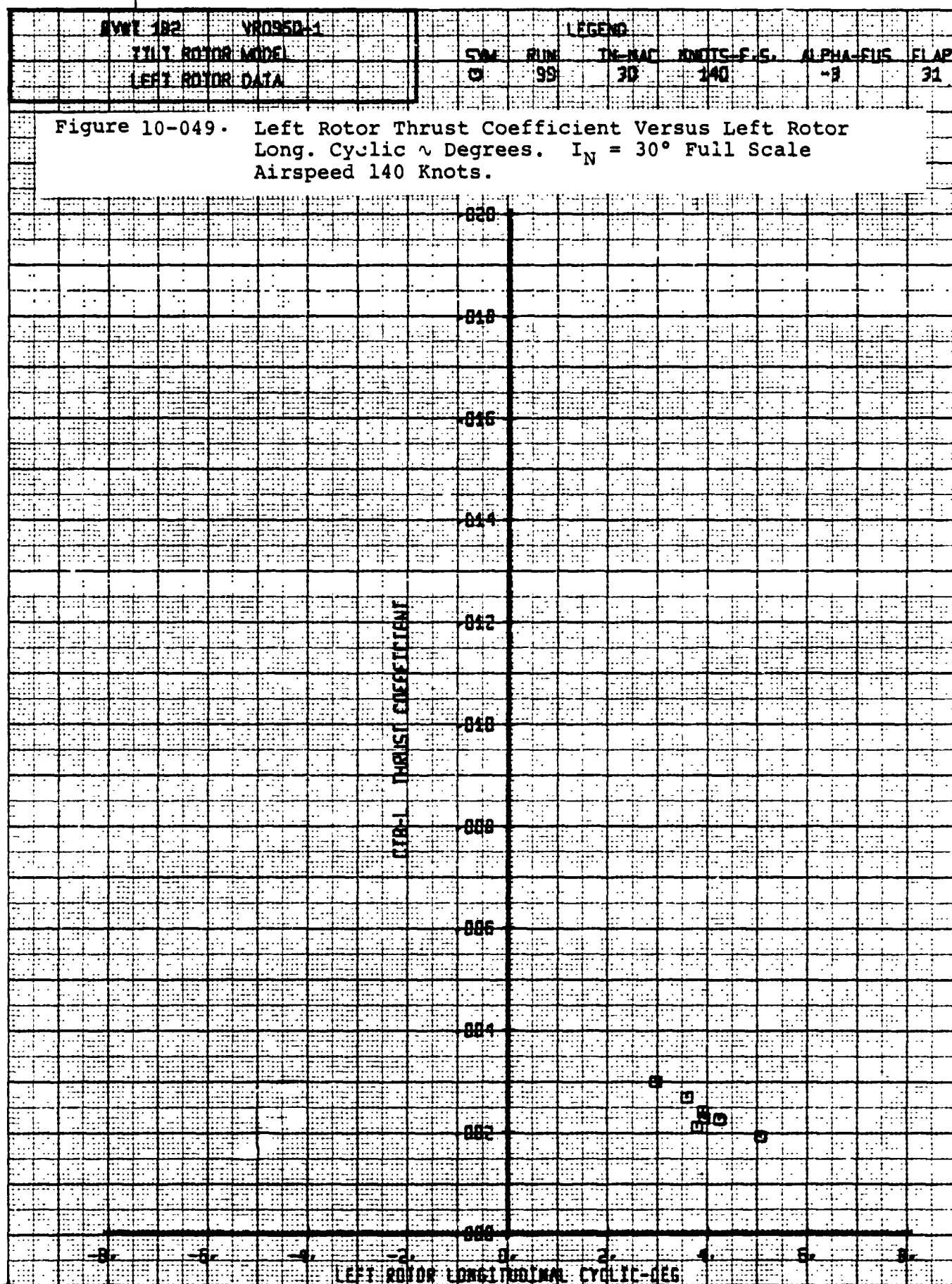
RIGHT ROTOR DATA

LEGEND

SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
□	97	30	140	-3	31

Figure 10-048. Alt. Right Pitch Link Load Versus Yaw Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





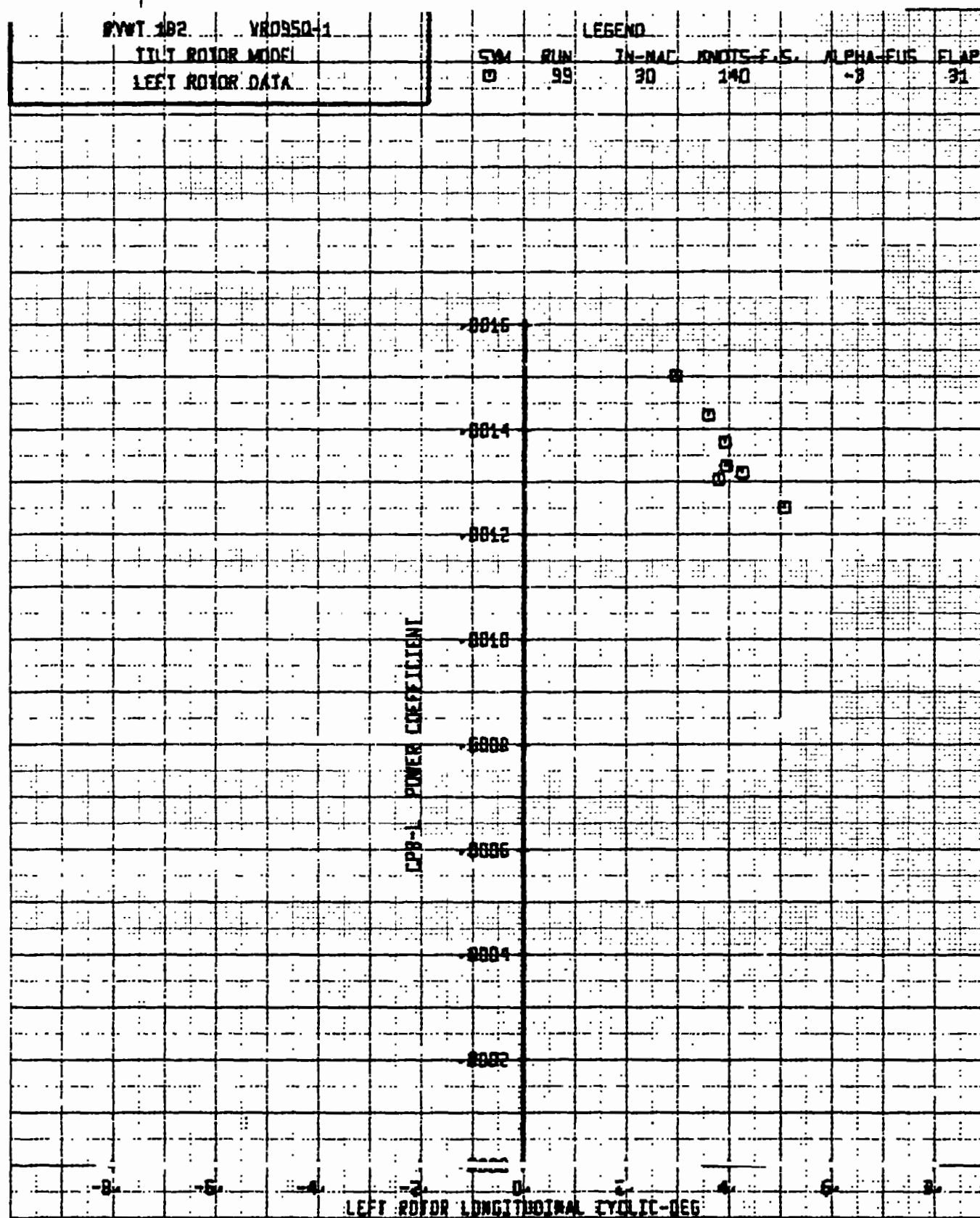


Figure 10-050. Left Rotor Power Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

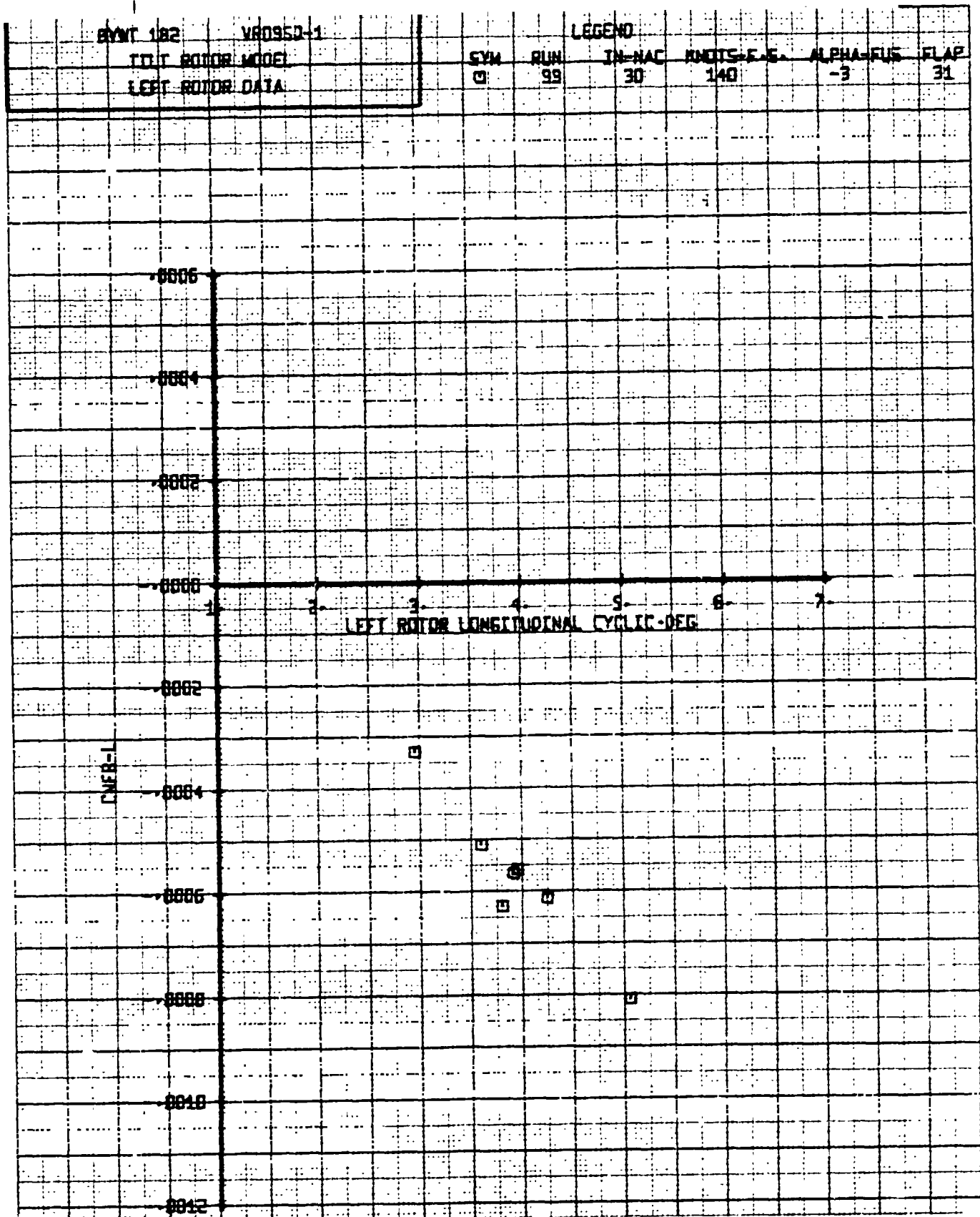
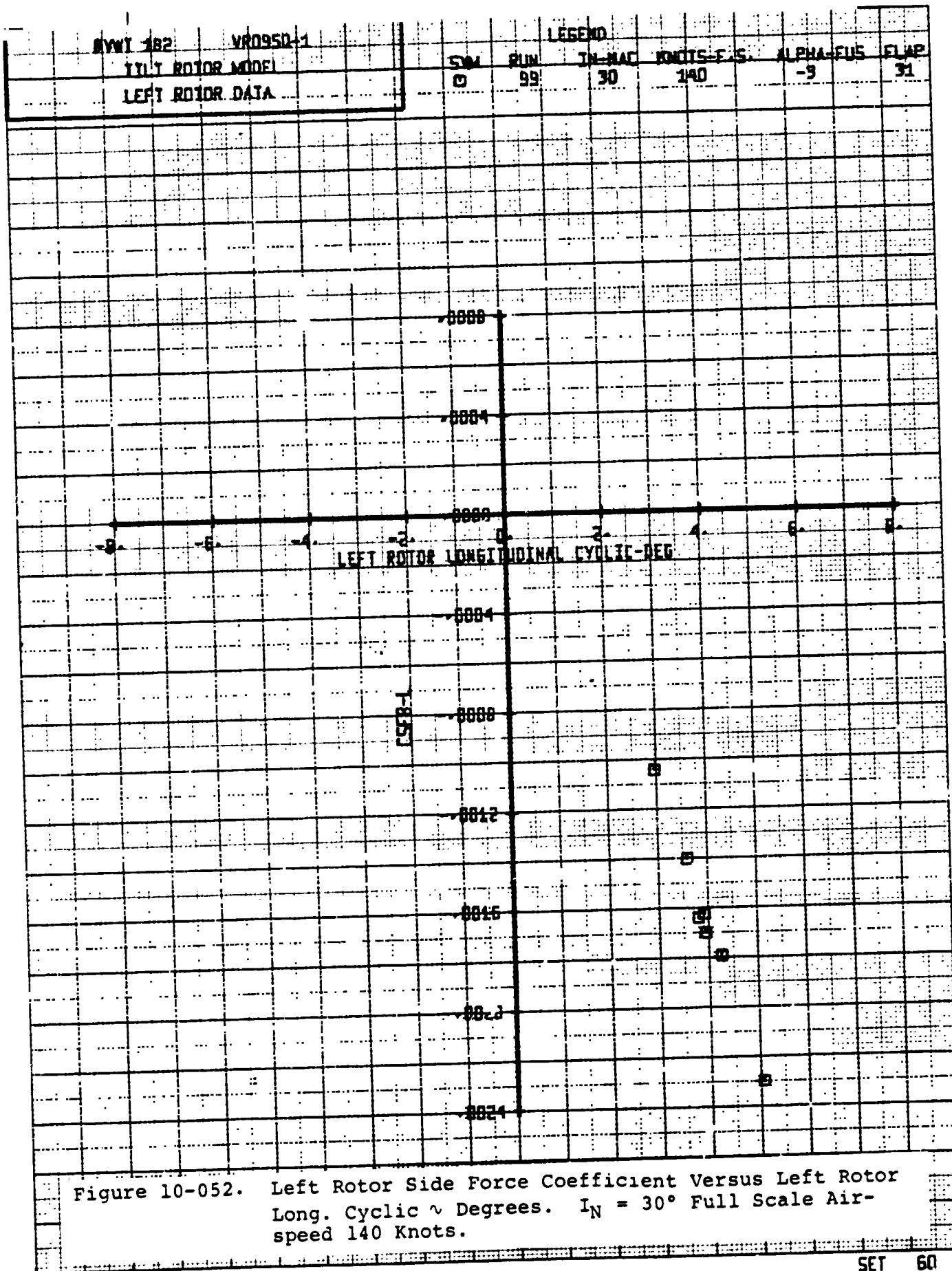
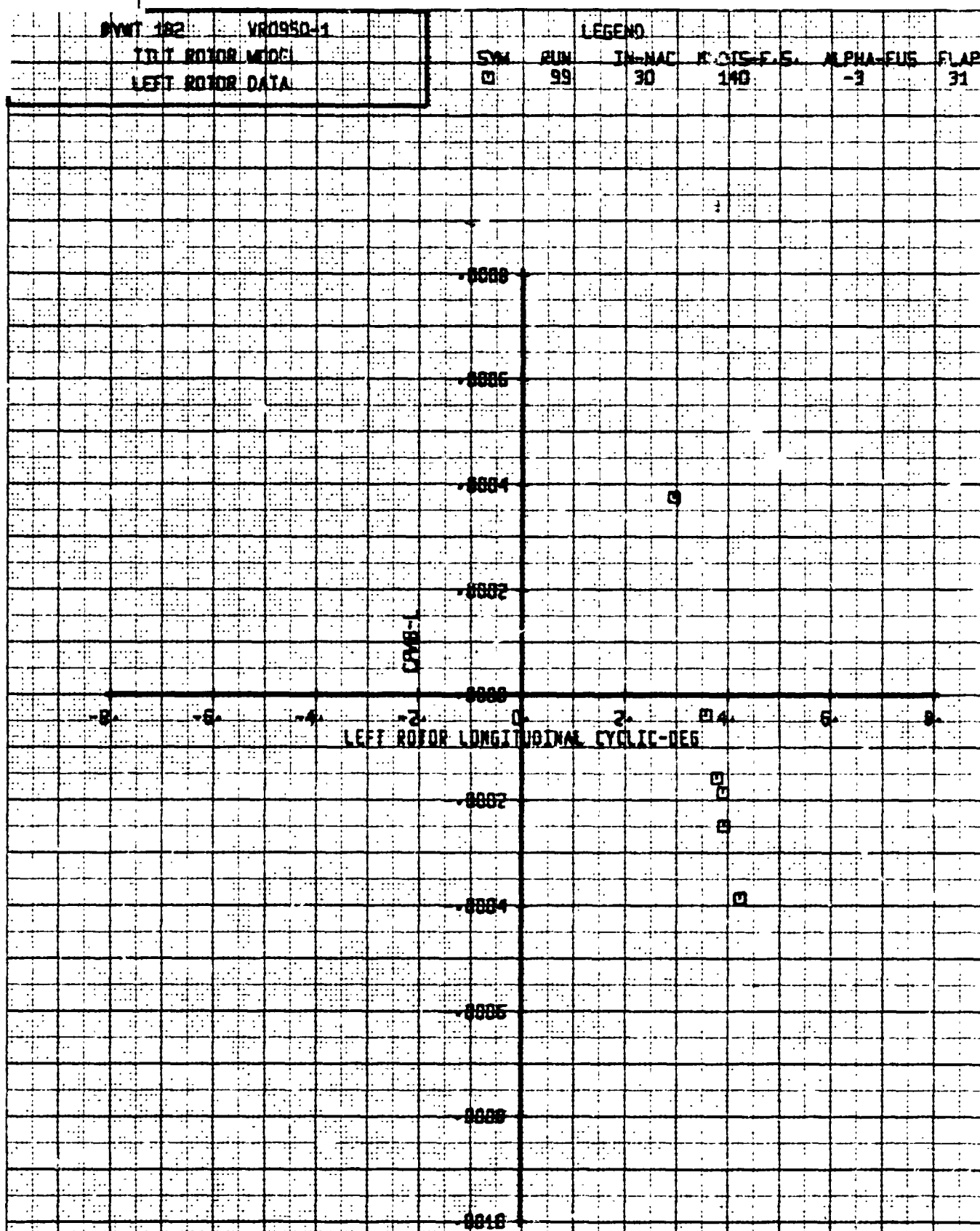


Figure 10-051. Left Rotor Normal Force Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





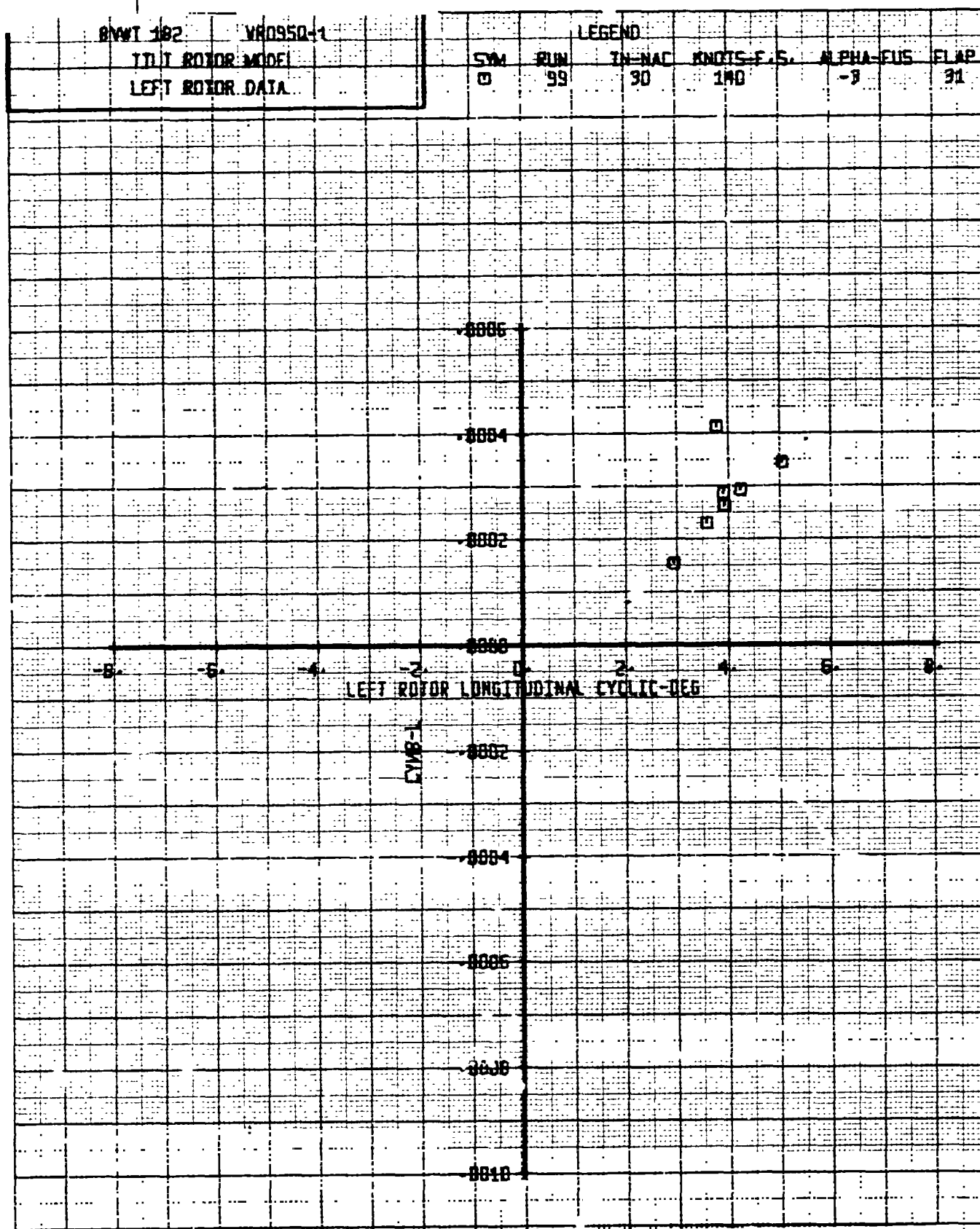
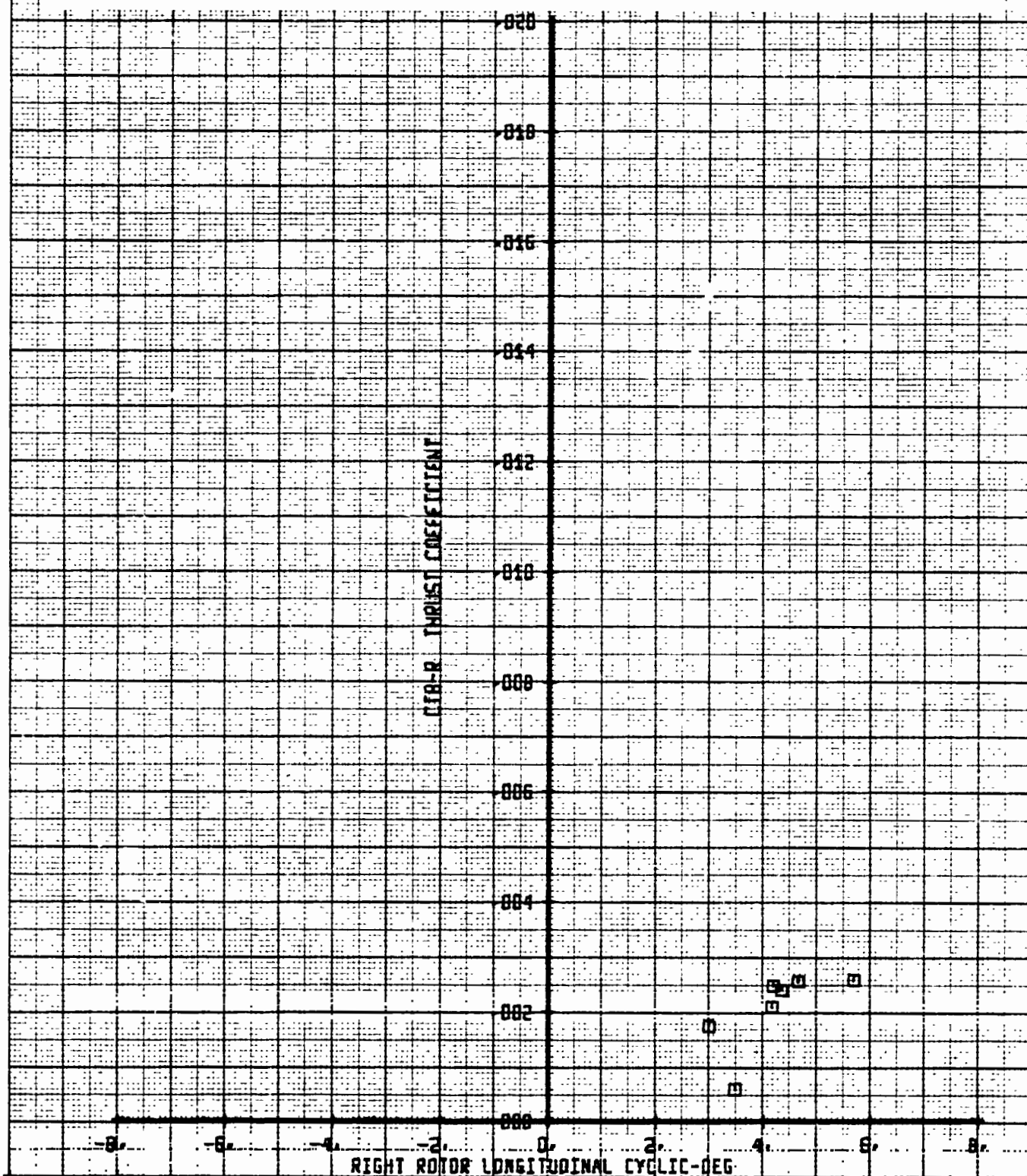


Figure 10-054. Left Rotor Yawing Moment Versus Left Rotor Long. Cyclic \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182	VR0950-1	LEGEND				
RIGHT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	99	30	140	-3
						71

Figure 10-055. Right Rotor Thrust Coefficient Versus Right Rotor Long. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



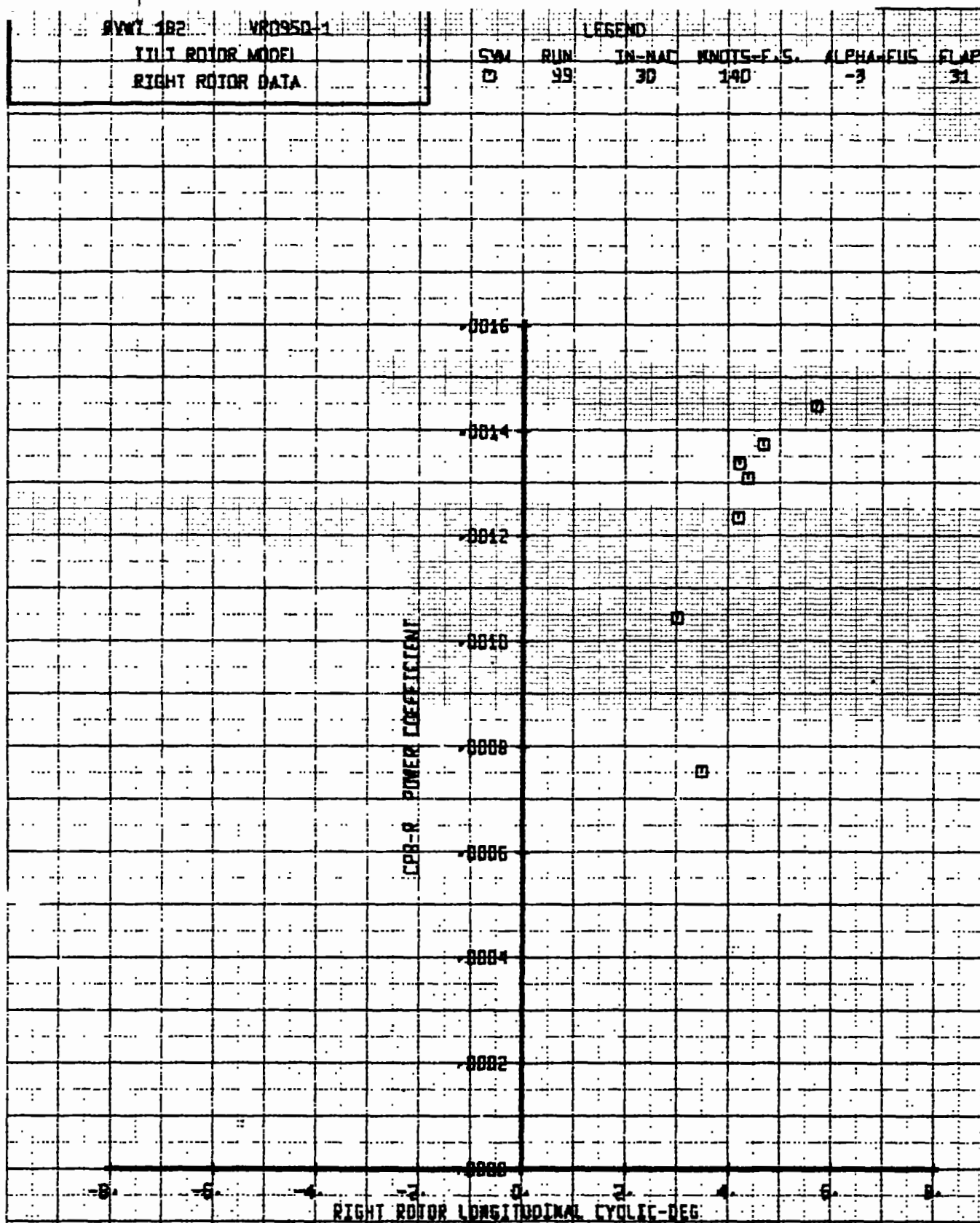
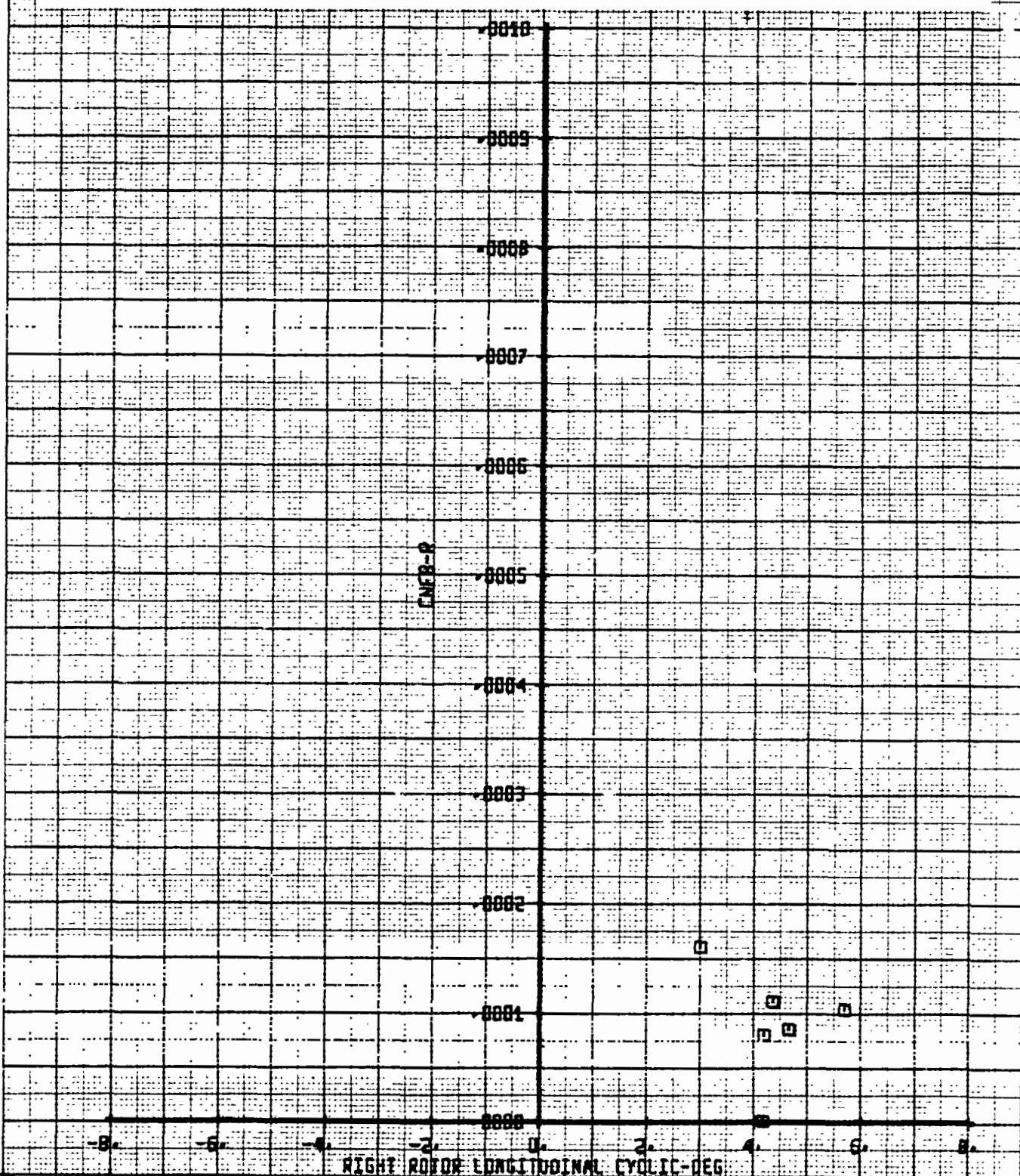


Figure 10-056. Right Rotor Power Coefficient Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODE		SYM	RUN	IN-NAE	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	99	30	140	-3
						FLAP 31

Figure 10-057. Right Rotor Normal Force Coefficient Versus Right Rotor Long. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



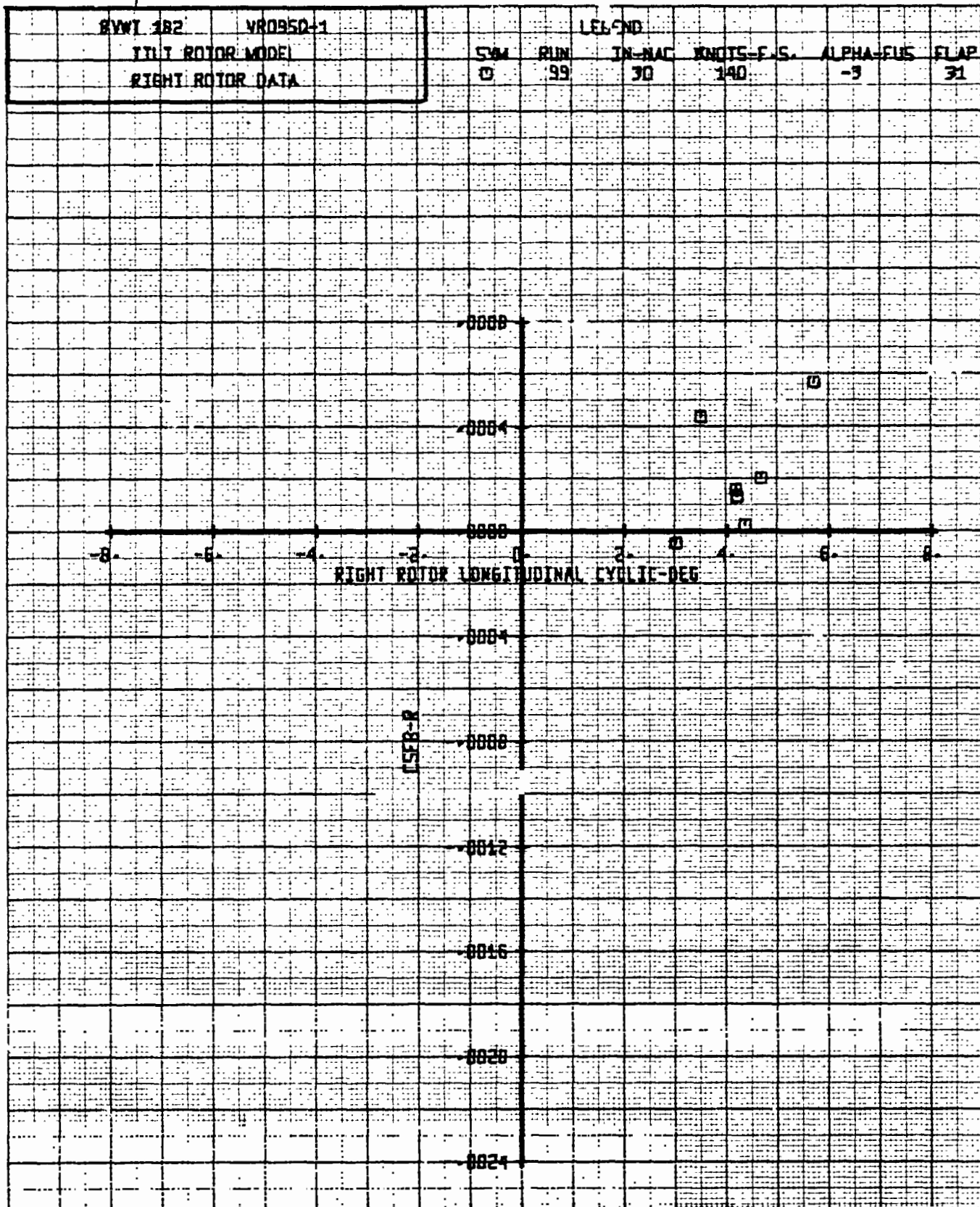


Figure 10-058. Right Rotor Side Force Coefficient Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

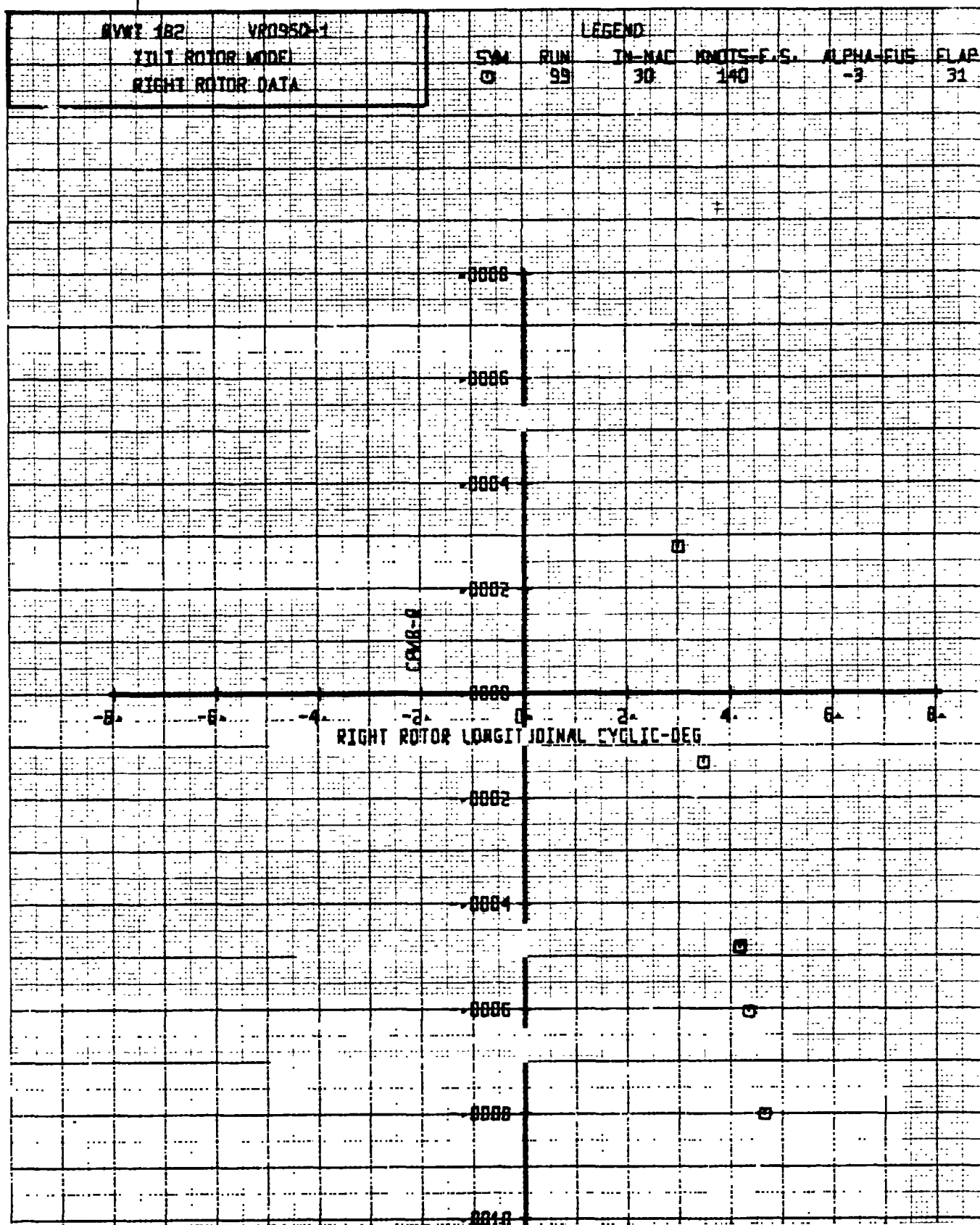


Figure 10-059. Right Rotor Pitching Moment Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

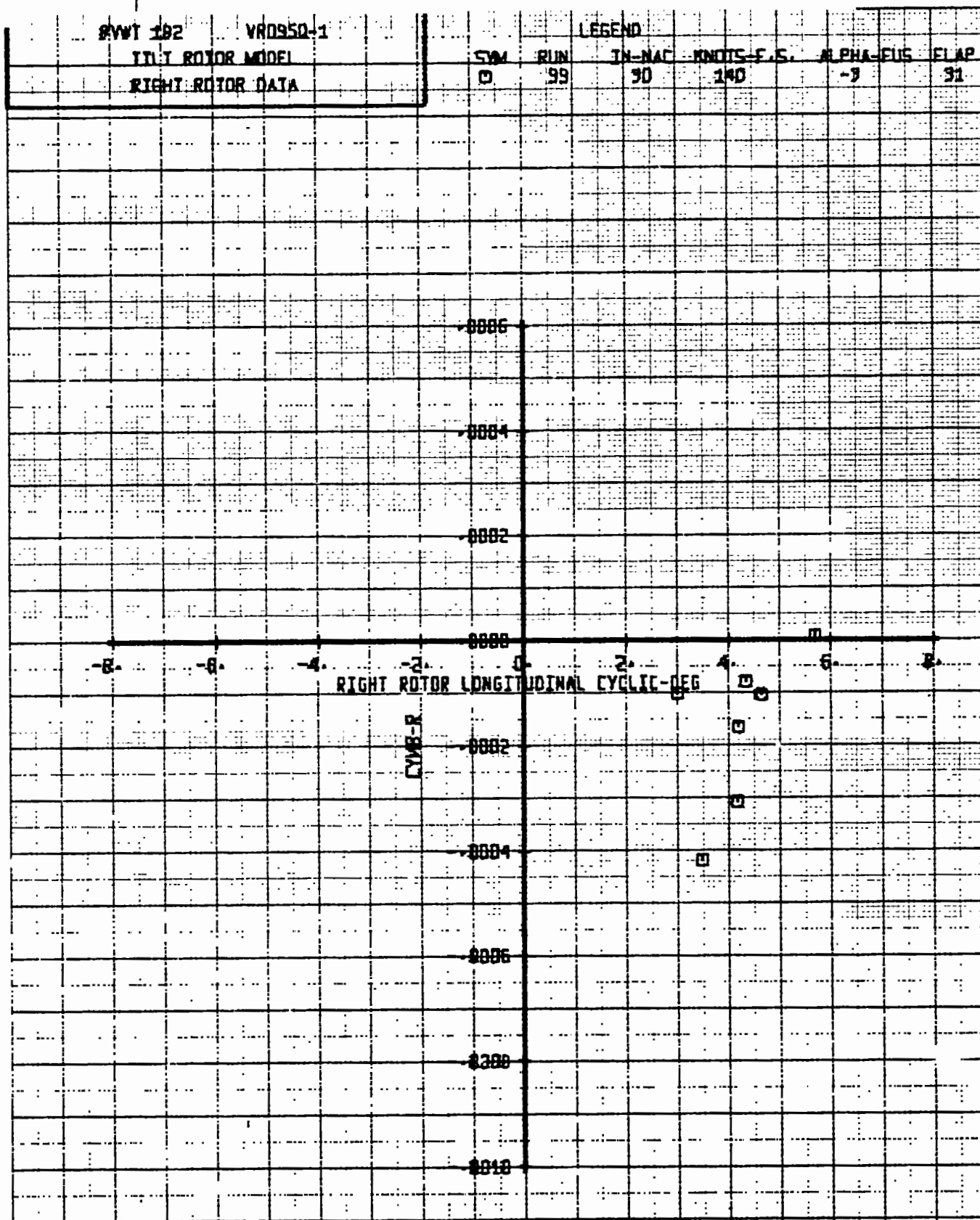
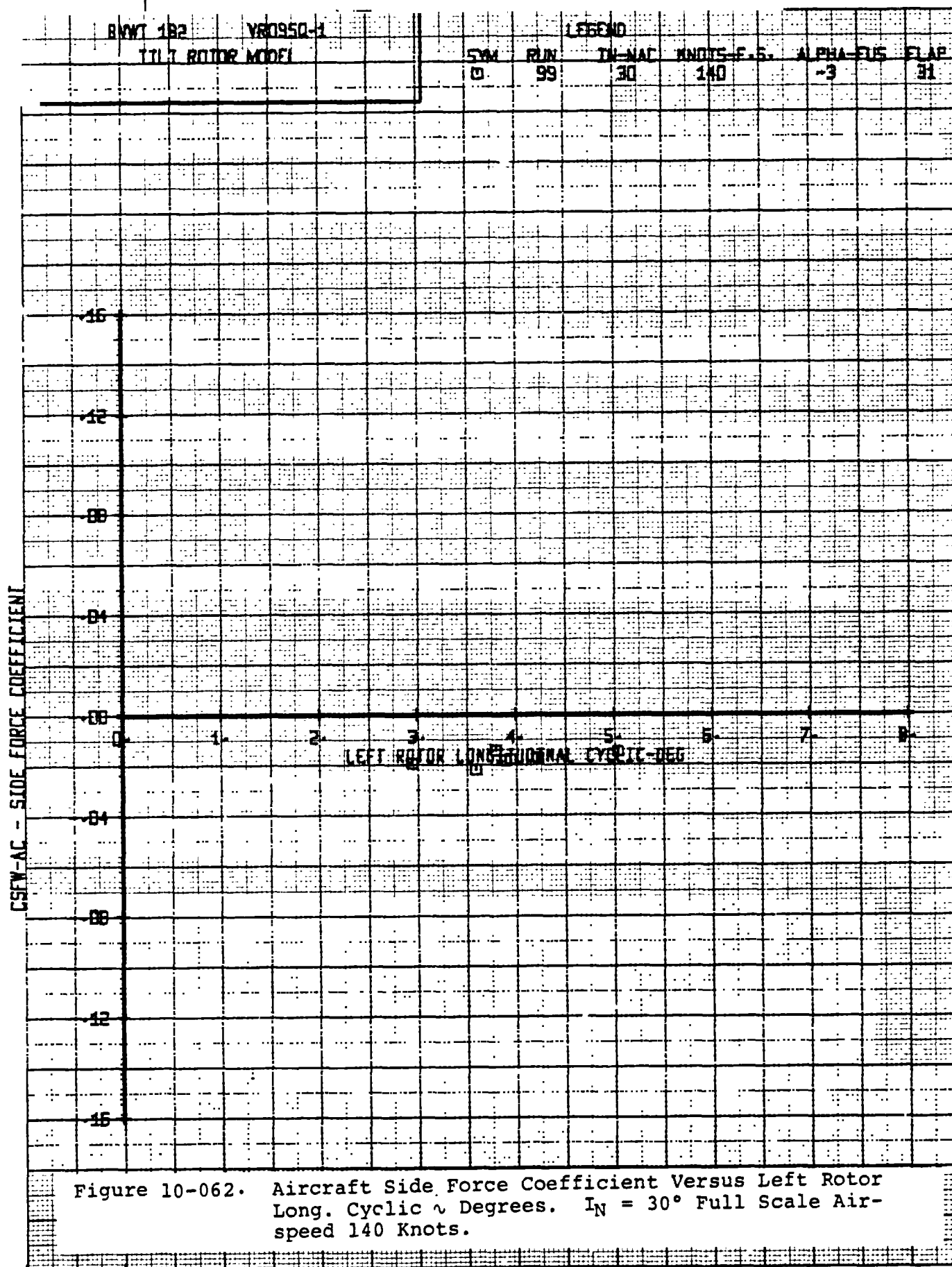
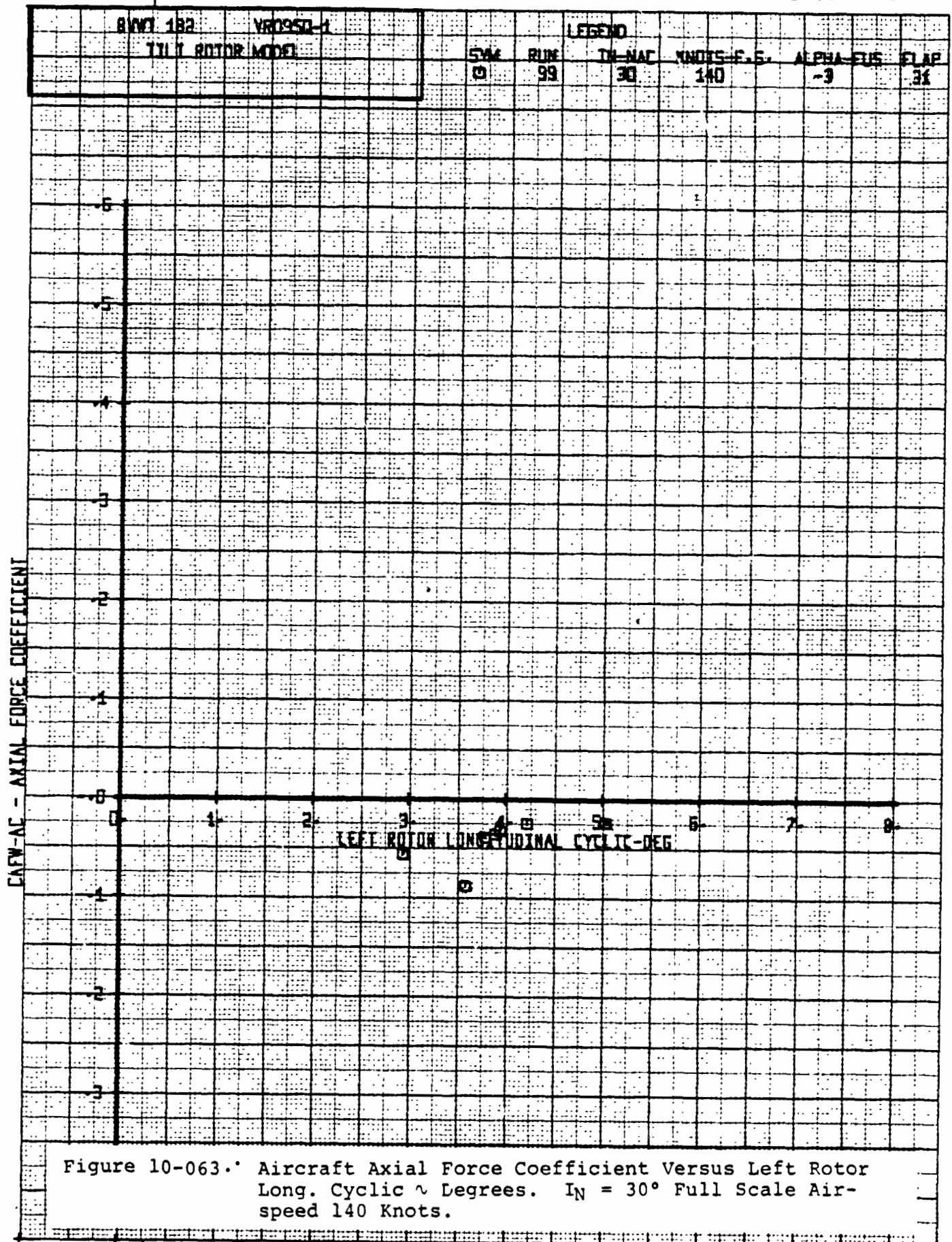
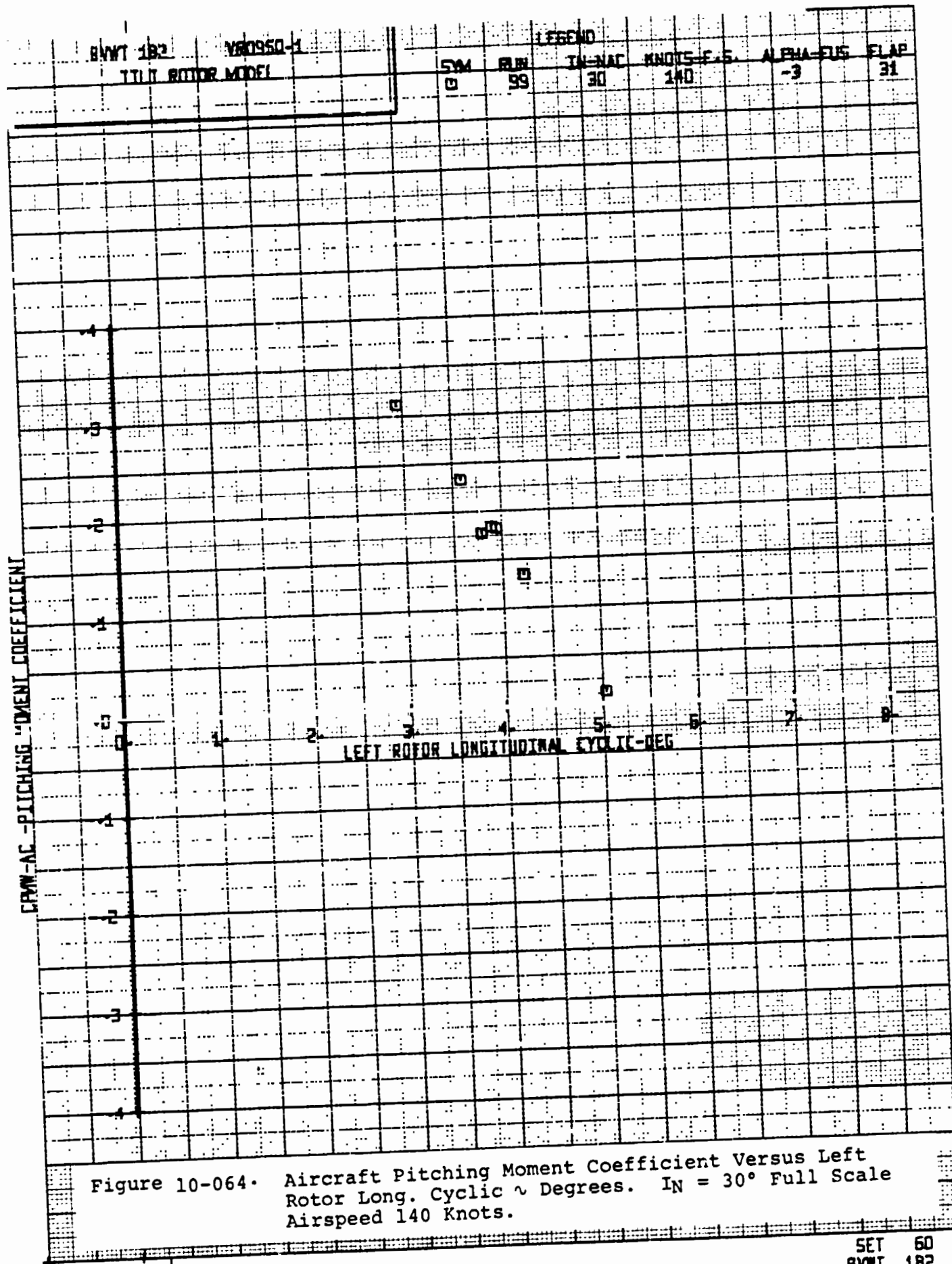
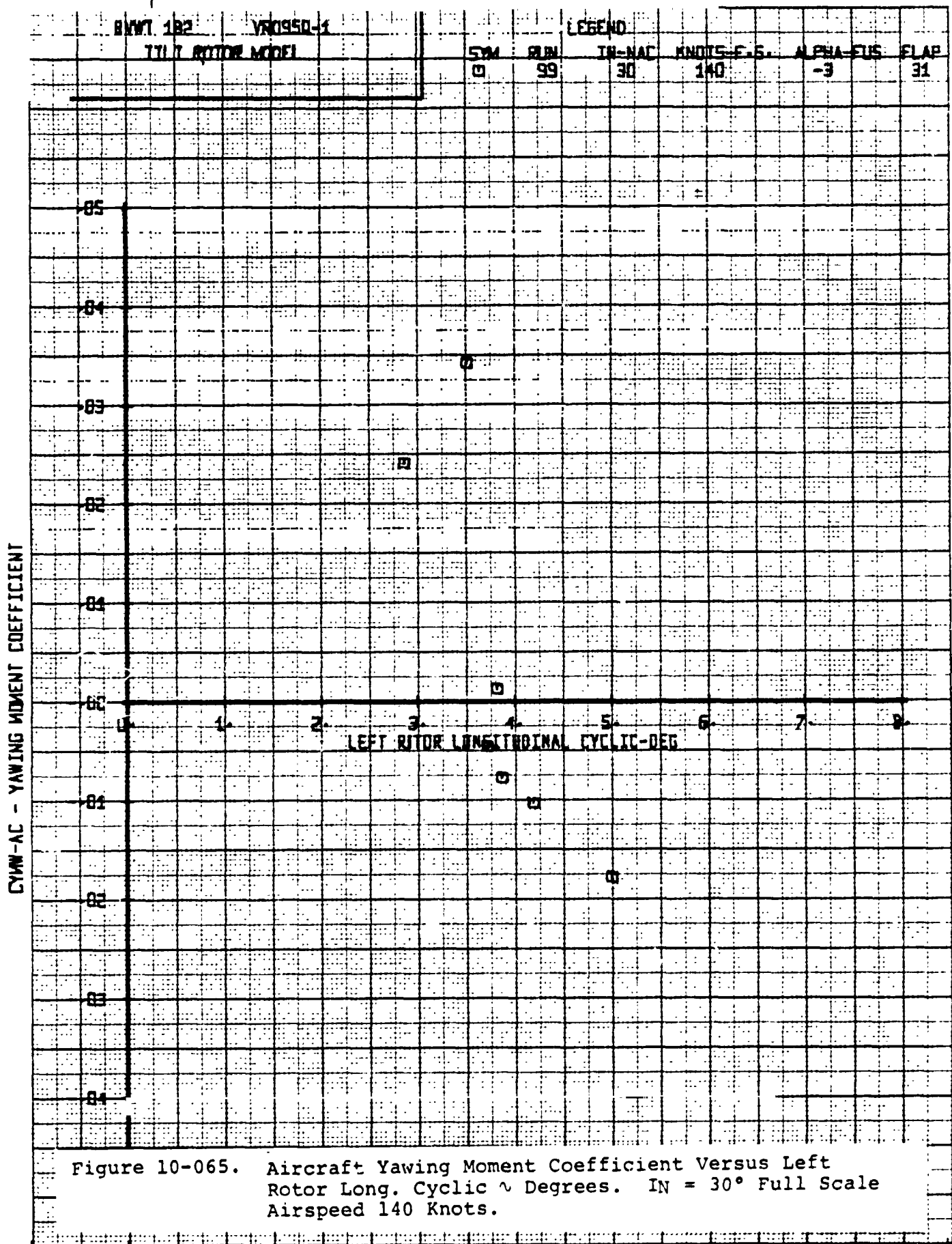


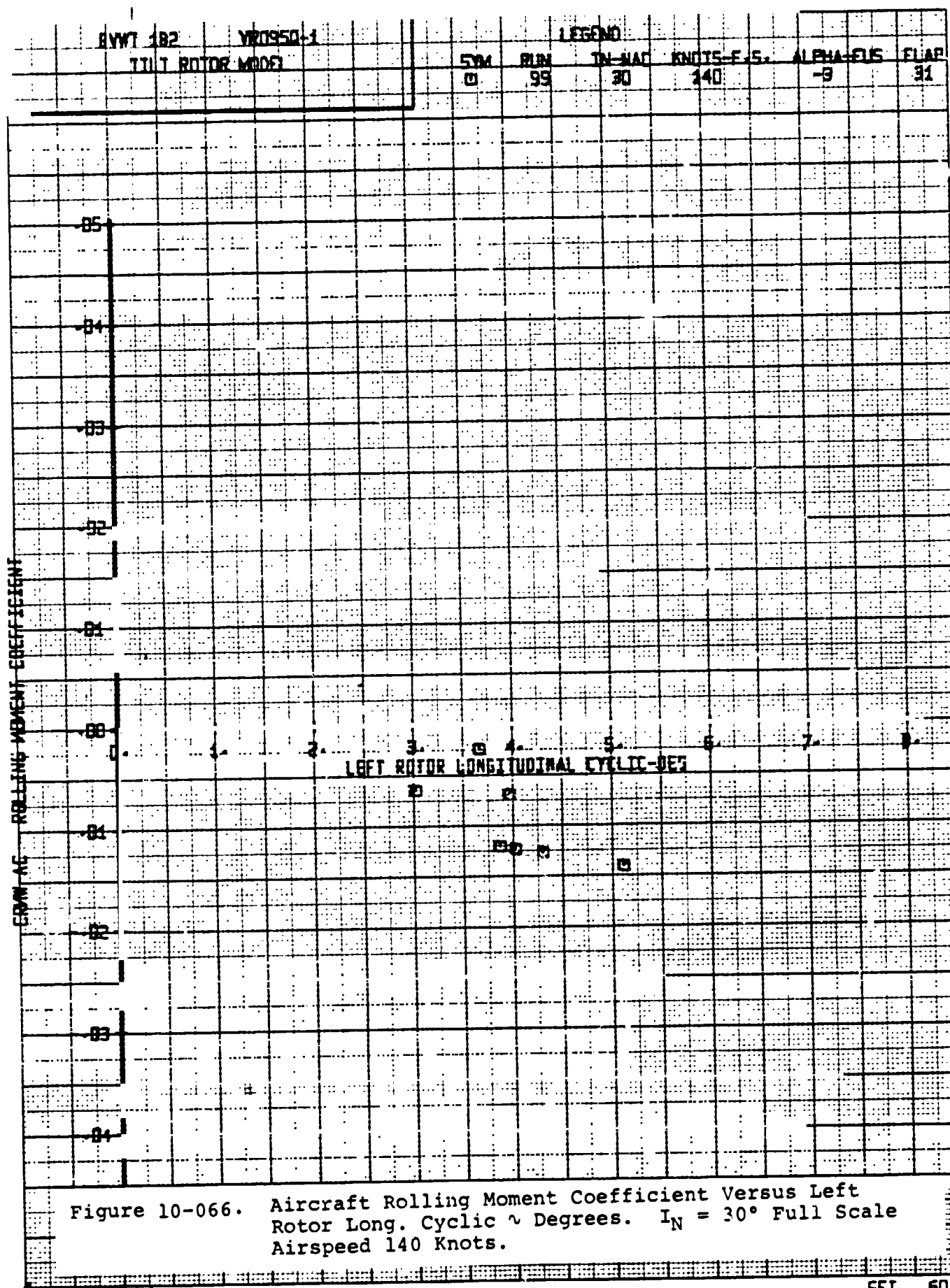
Figure 10-060. Right Rotor Yawing Moment Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.











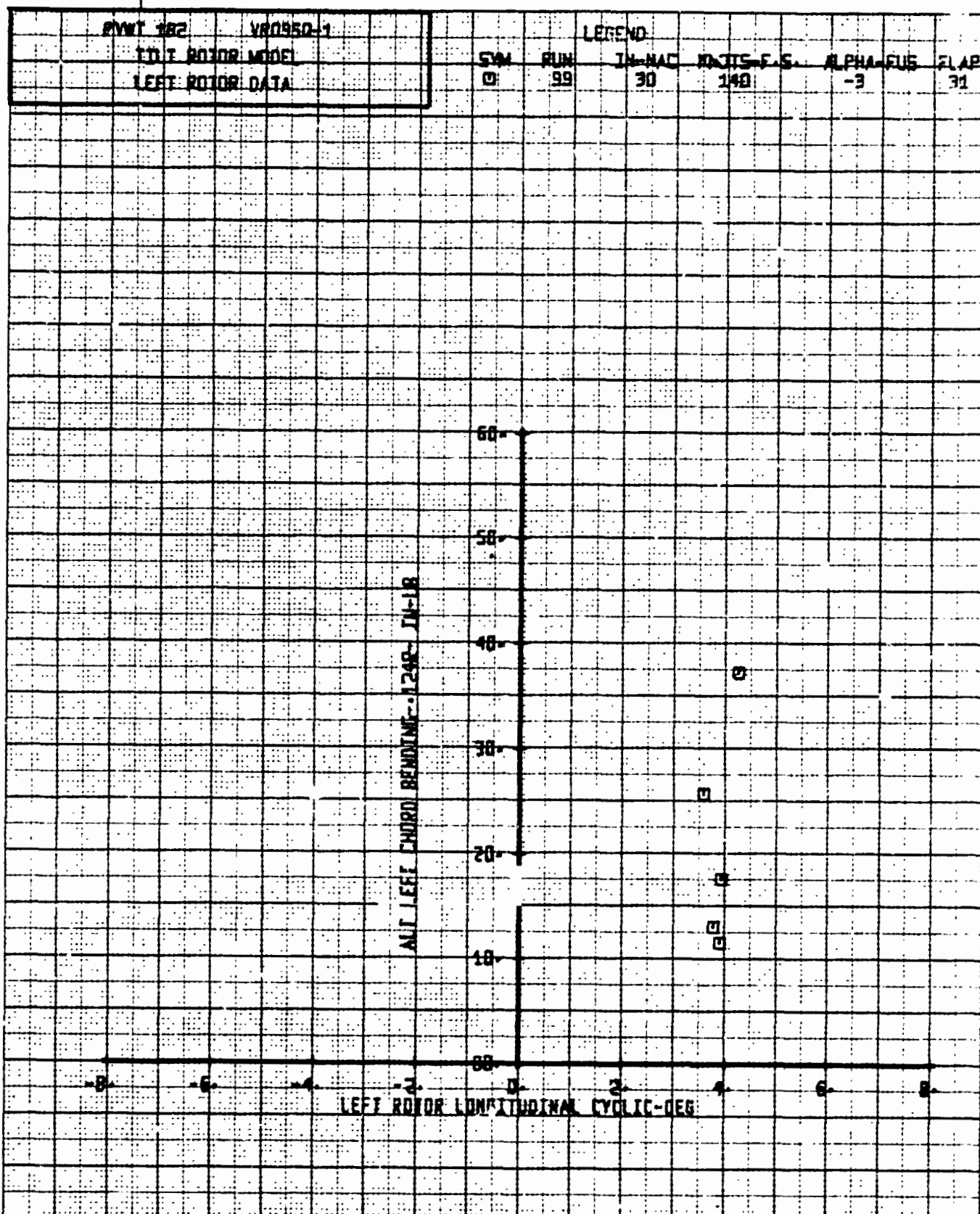


Figure 10-067. Alt. Left Chord Bending Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182 VR0950-1

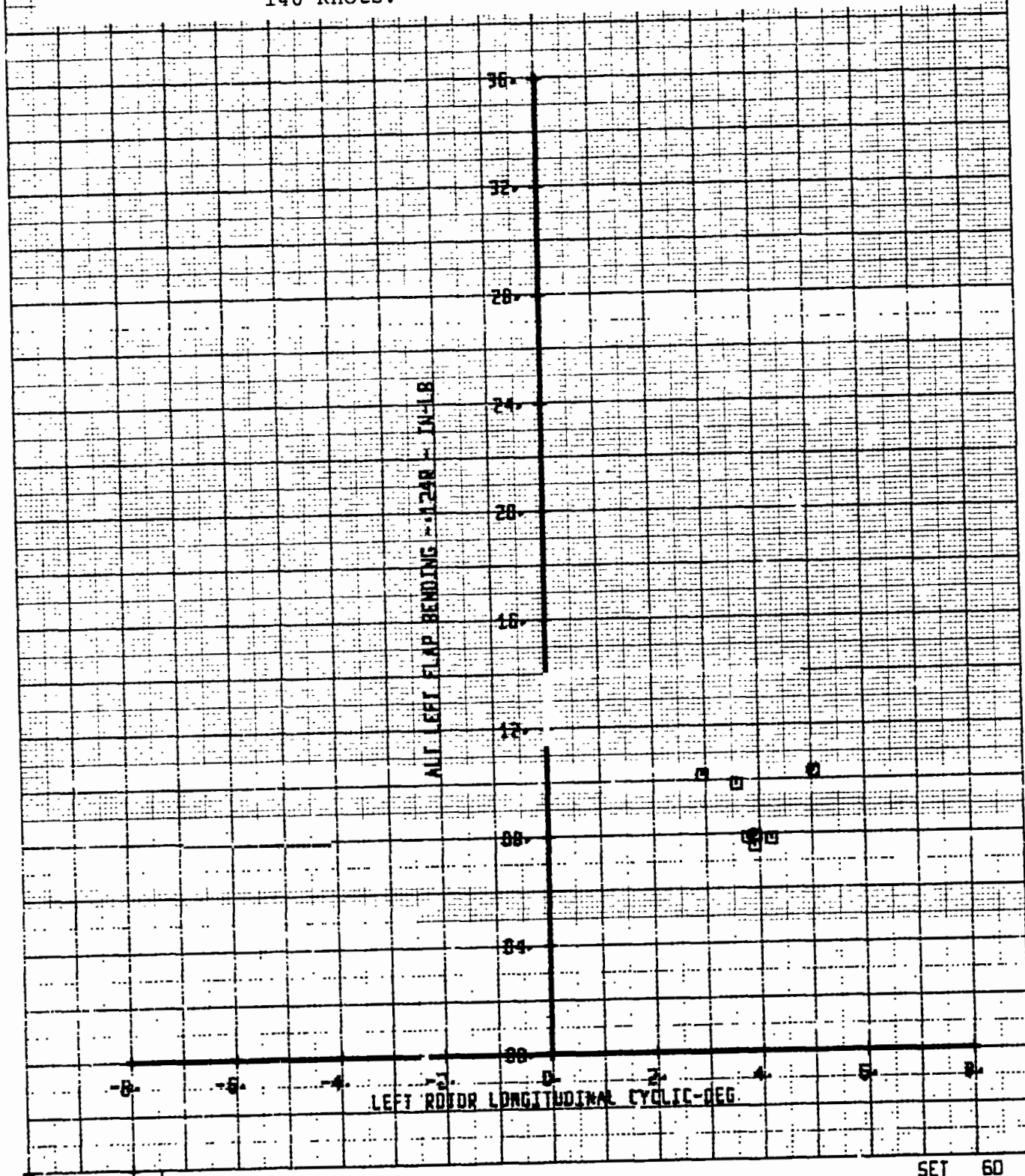
LEFT ROTOR LONG.

LEFT ROTOR DATA

LEGEND

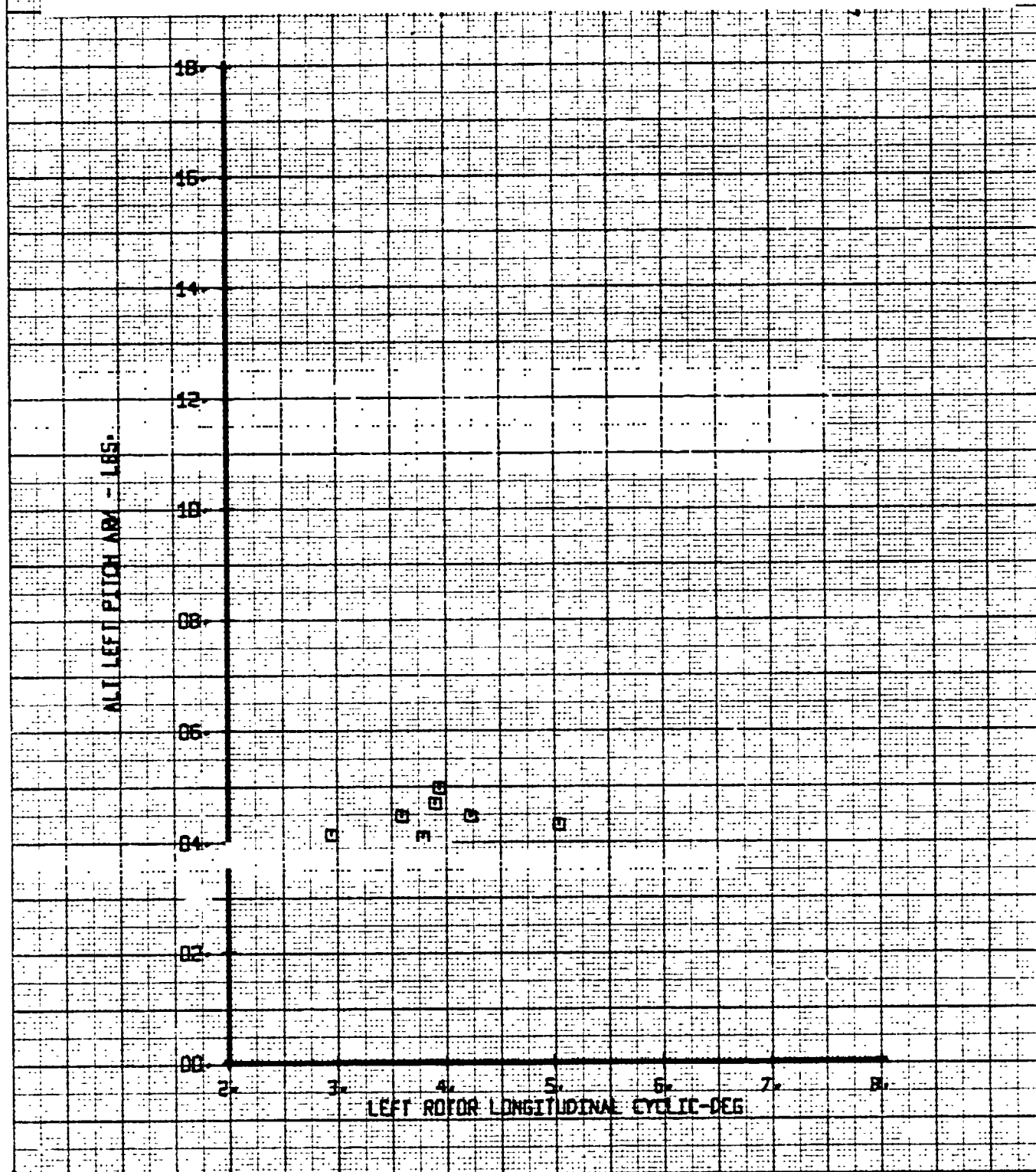
SYM
□RUN
99IN-NAE
30KNOTS-F.S.
140ALPHA-FUS
-3FLAP
31

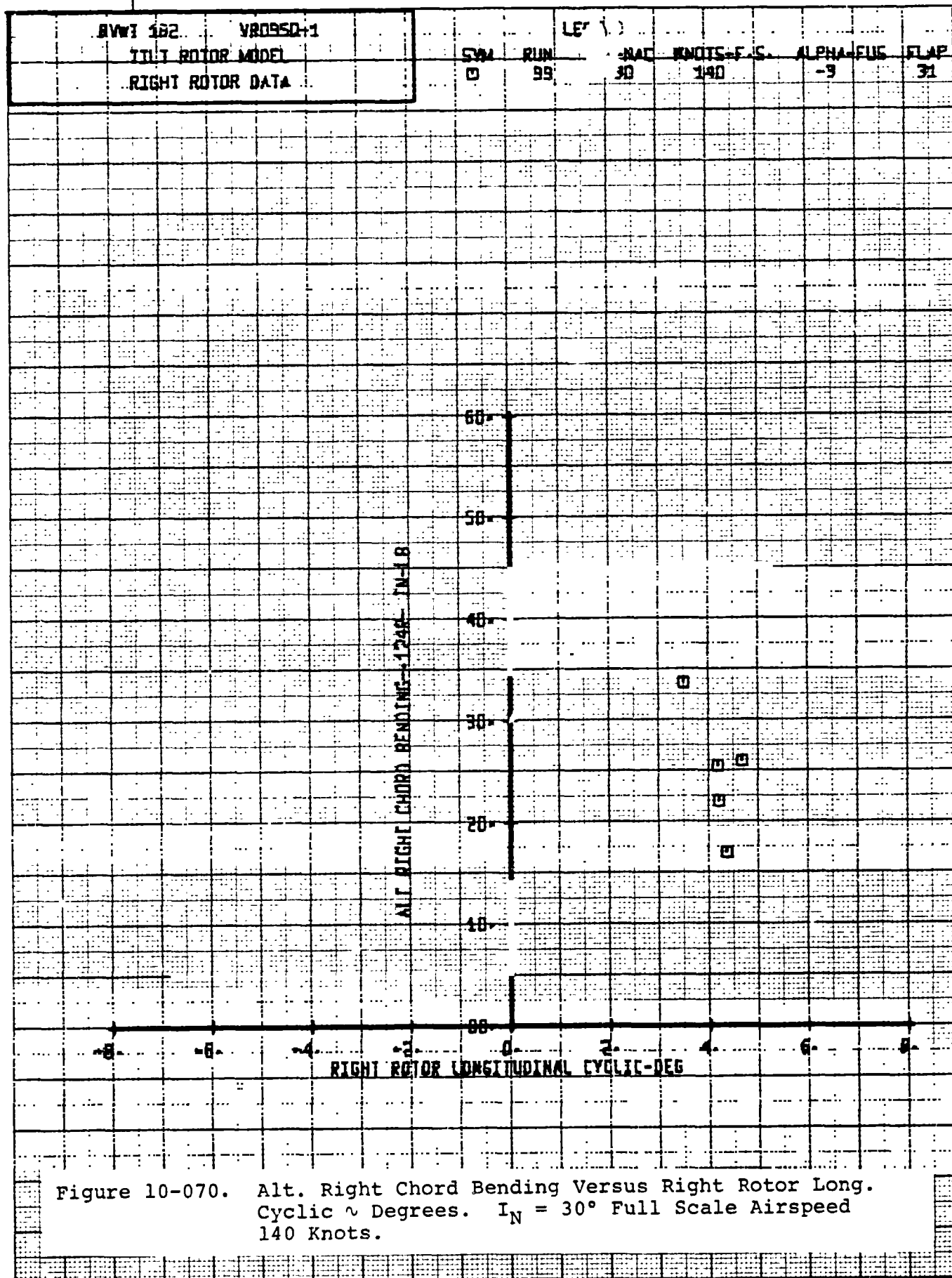
Figure 10-068. Alt. Left Flap Bending Versus Left Rotor Long.
Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed
140 Knots.

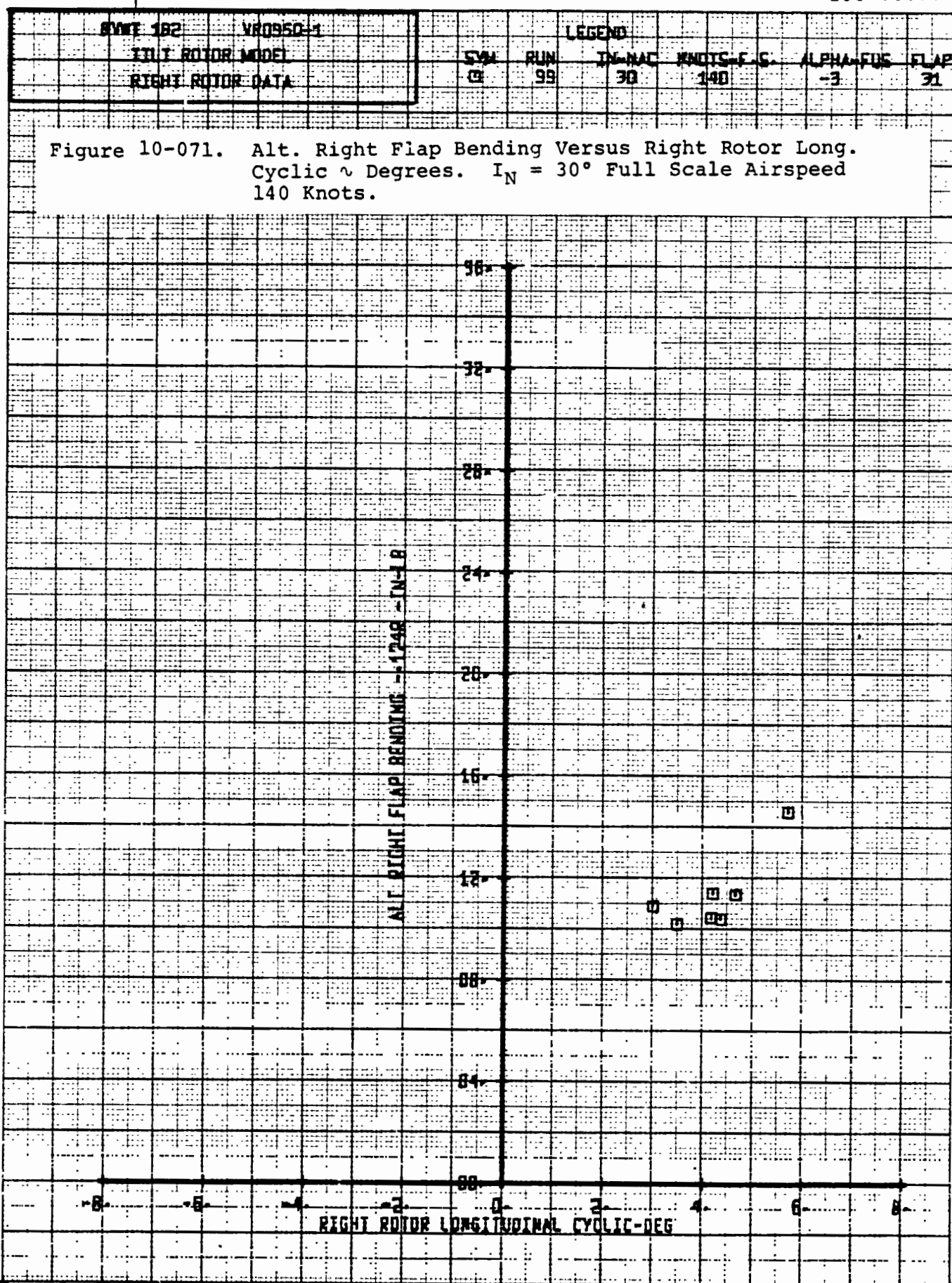


BVWT 182	VR0950-1	SYM	FLN	IN-MAC	INDIS-F.S.	ALPHA-FUS	FLAP
LEFT ROTOR MODEL		99	30	140	-3	31	
LEFT ROTOR DATA							

Figure 10-069. Alt. Left Pitch Link Load Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

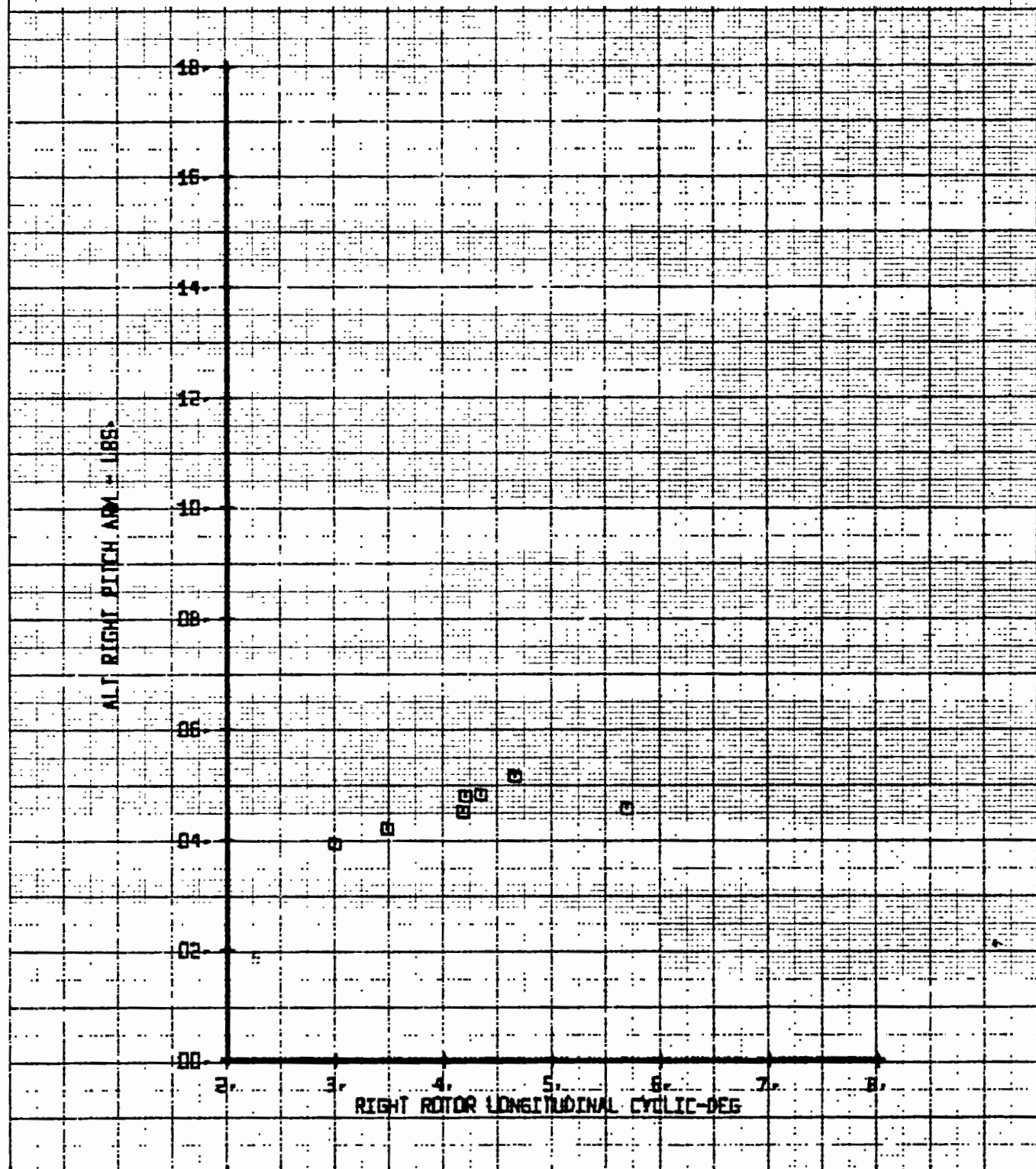






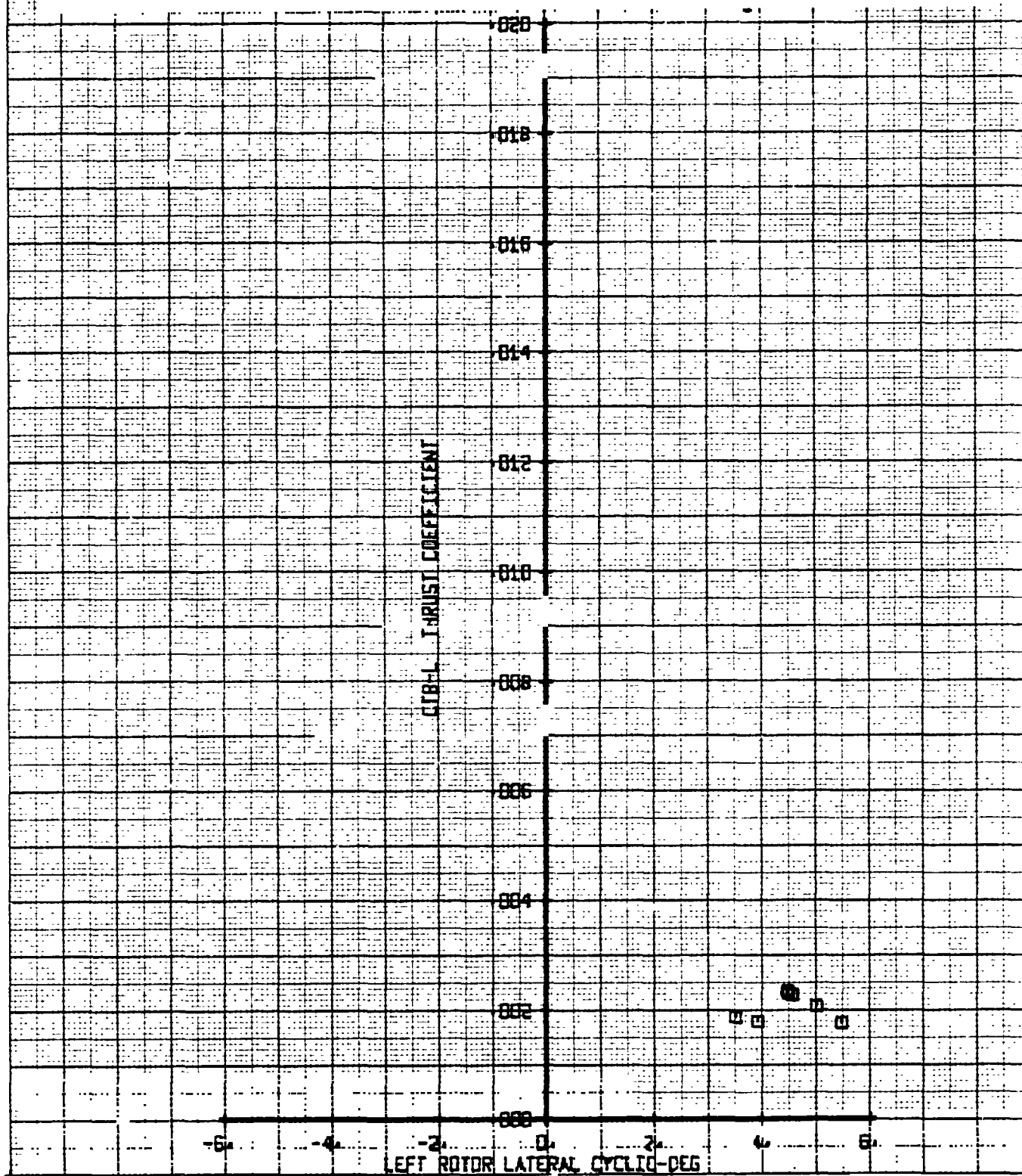
BYWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RLN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	99	90	140	-3
						FLAP 31

Figure 10-072. Alt. Right Pitch Link Load Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



RWMT 182		VR0950-1		LEGEND				
TTLT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP	
LEFT ROTOR DATA:		0	98	30	140	-3	31	

Figure 10-073. Left Rotor Thrust Coefficient Versus Left Rotor Lat. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



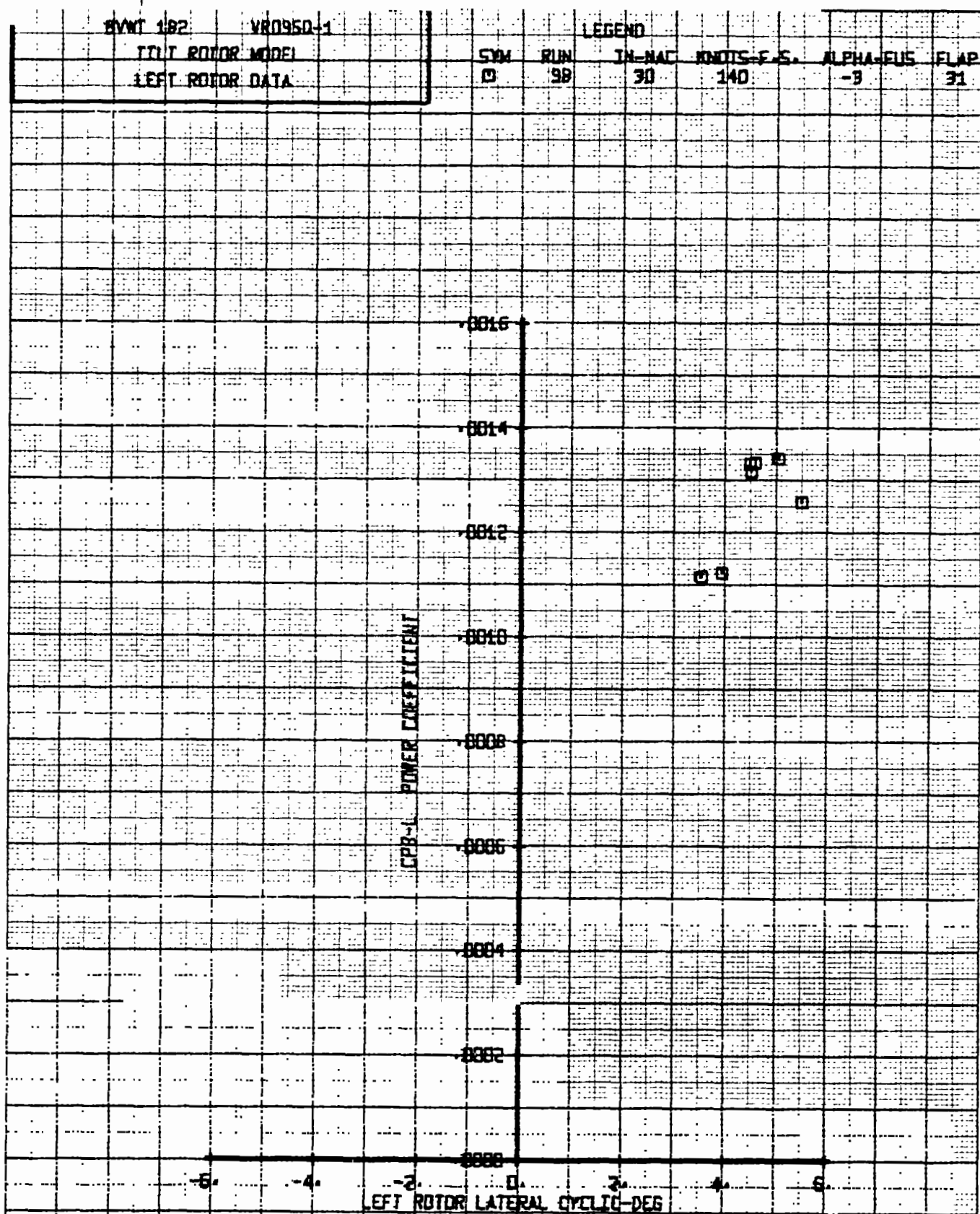


Figure 10-074. Left Rotor Power Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

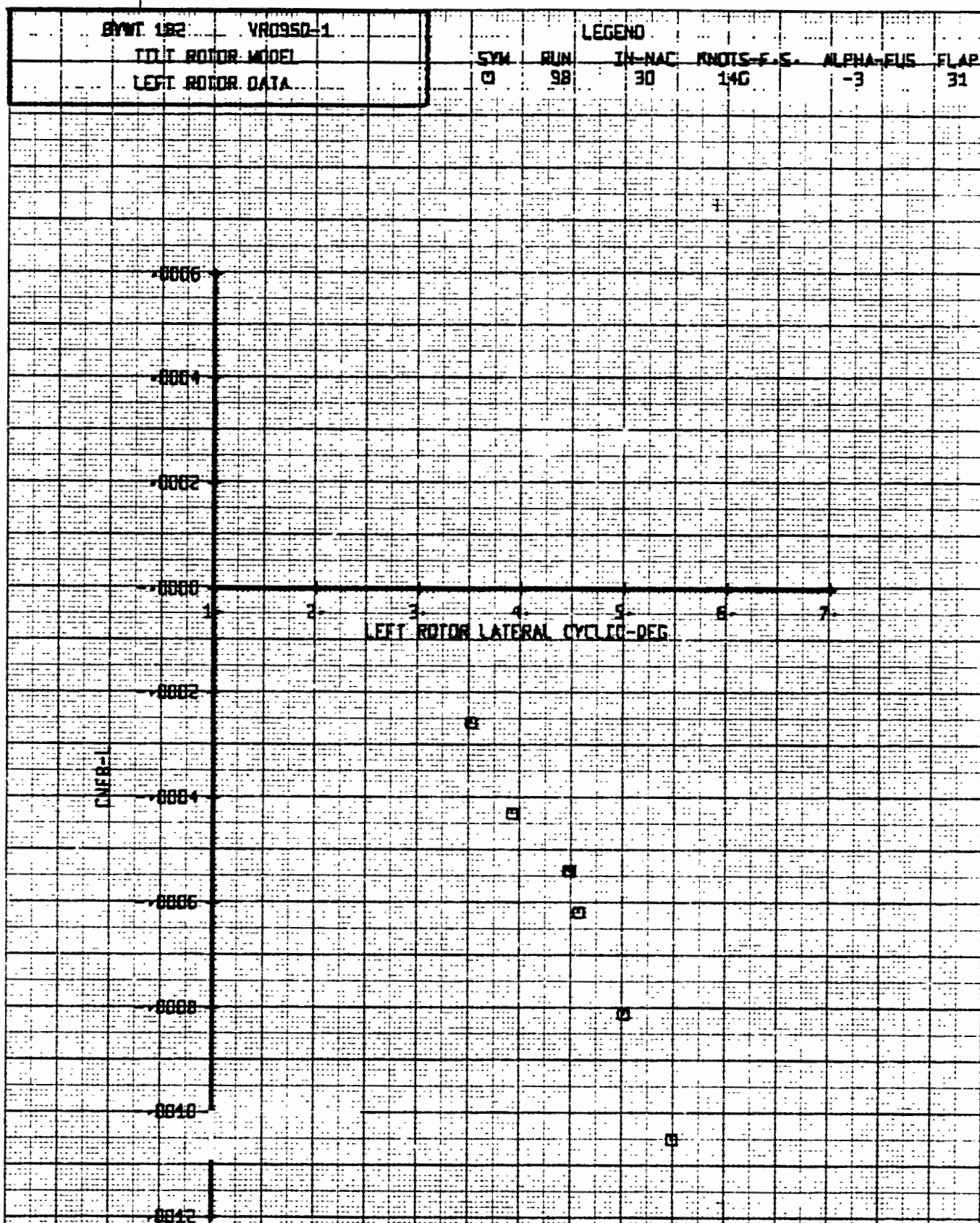
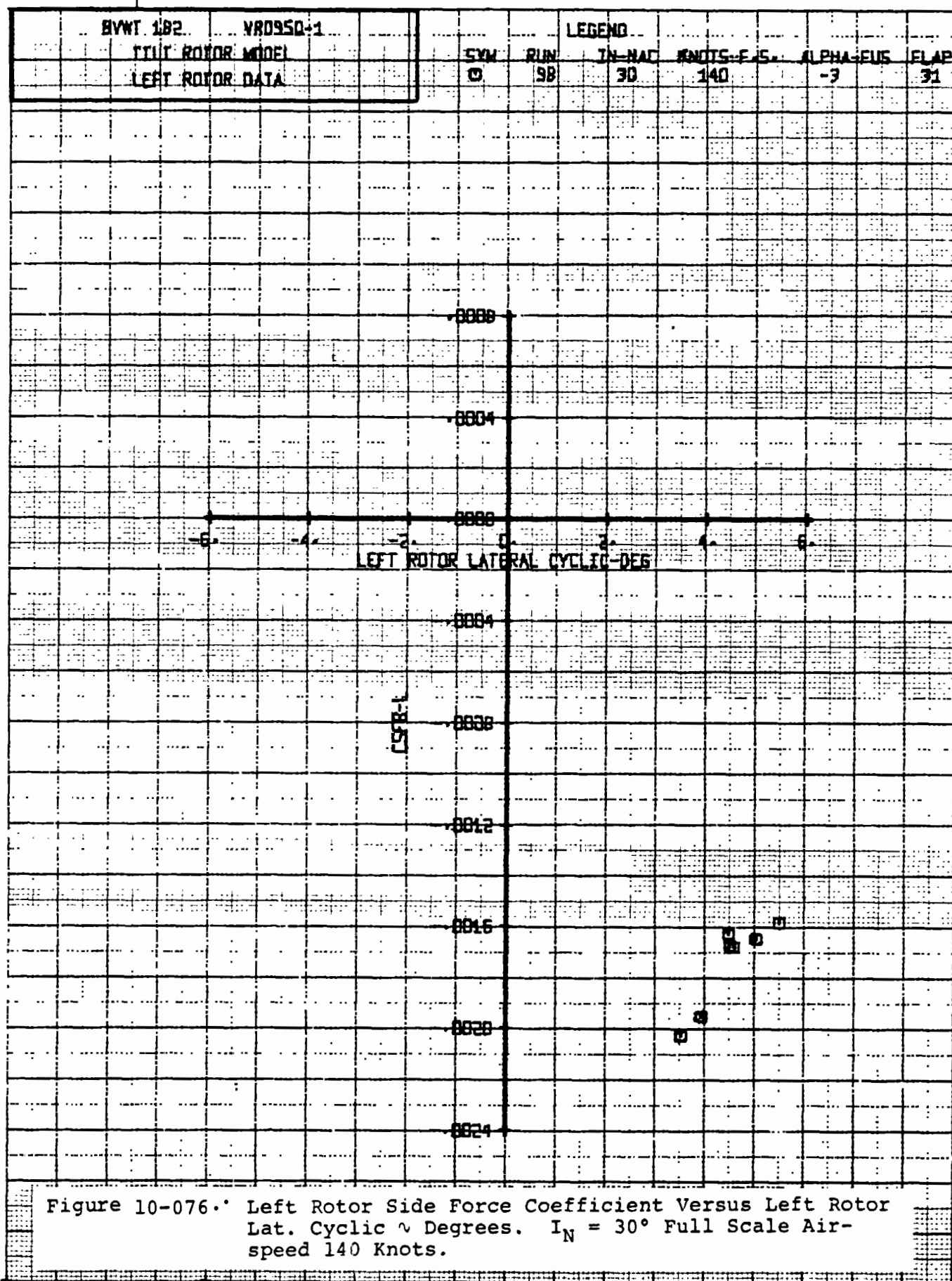


Figure 10-075. Left Rotor Normal Force Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



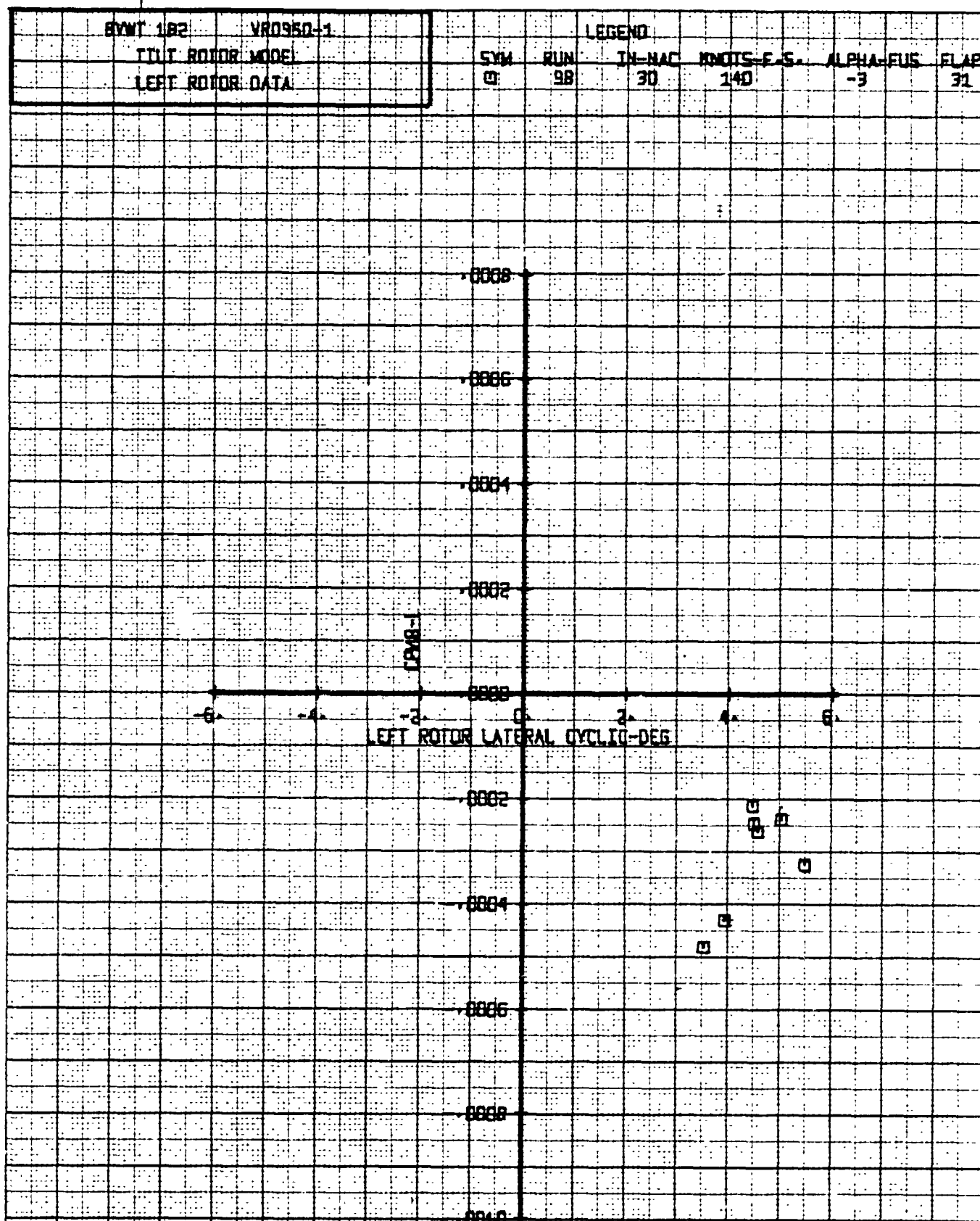


Figure 10-077. Left Rotor Pitching Moment Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

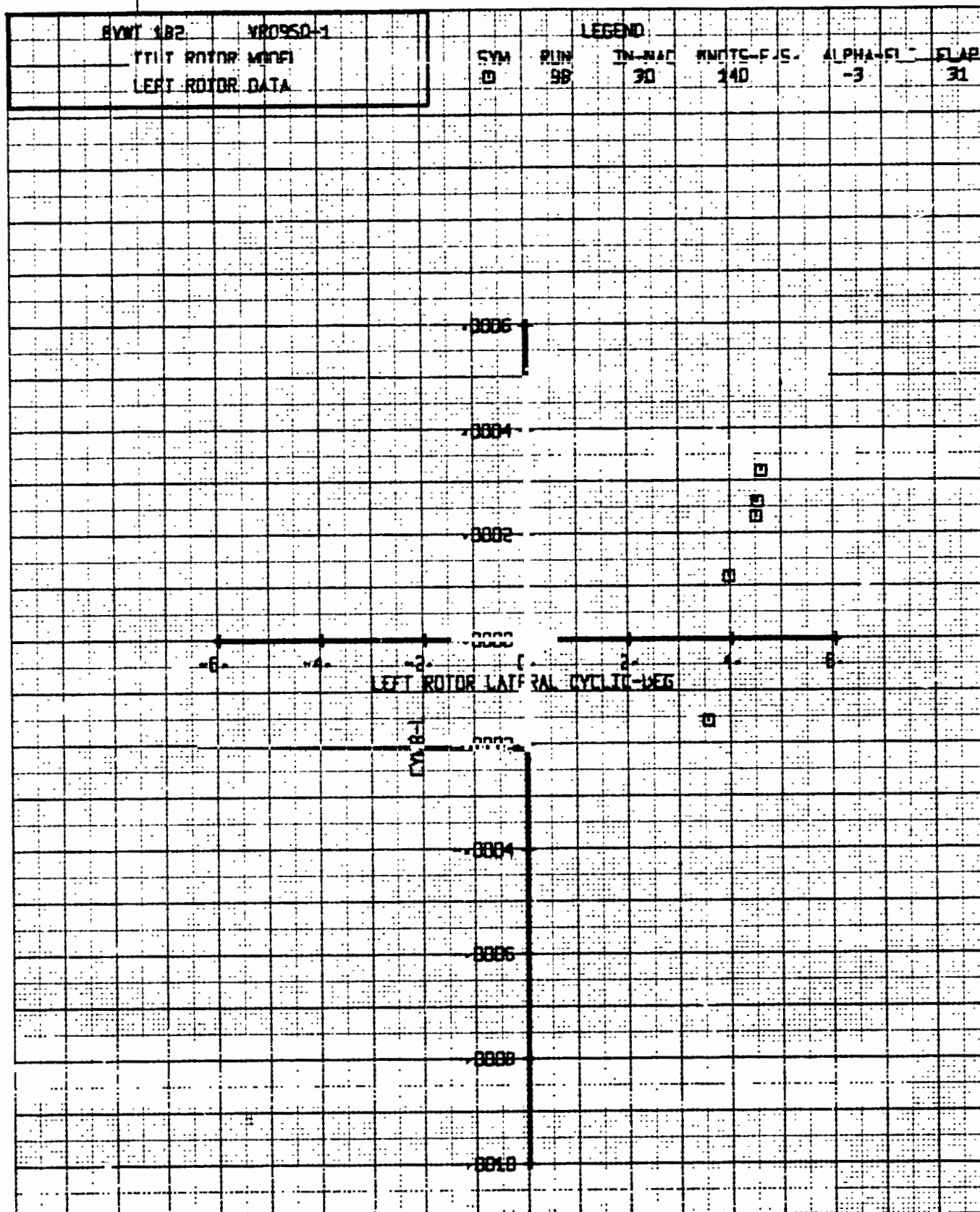
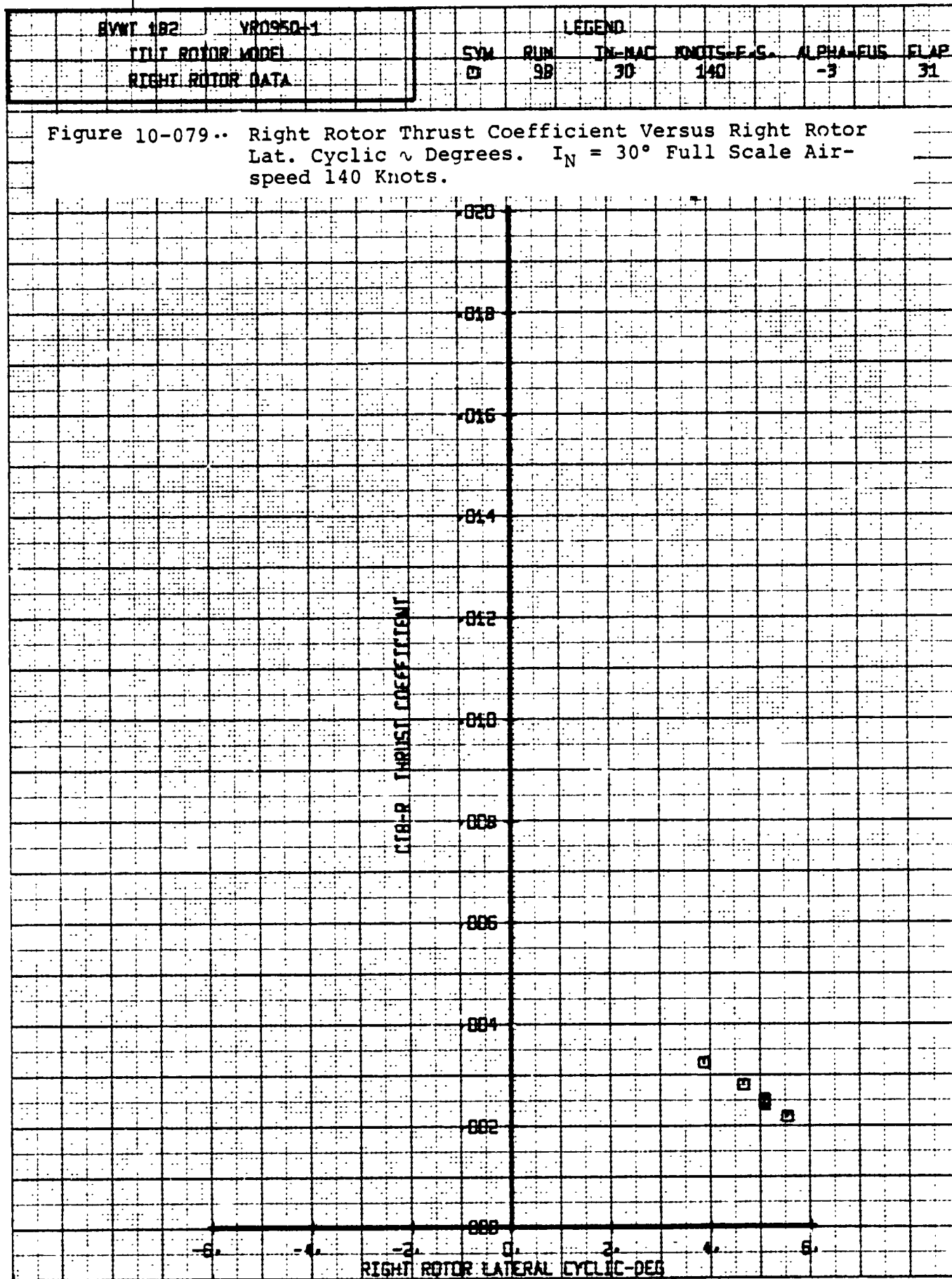


Figure 10-078. Left Rotor Yawing Moment Coefficient Versus Left Rotor Lat. Cyclic \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



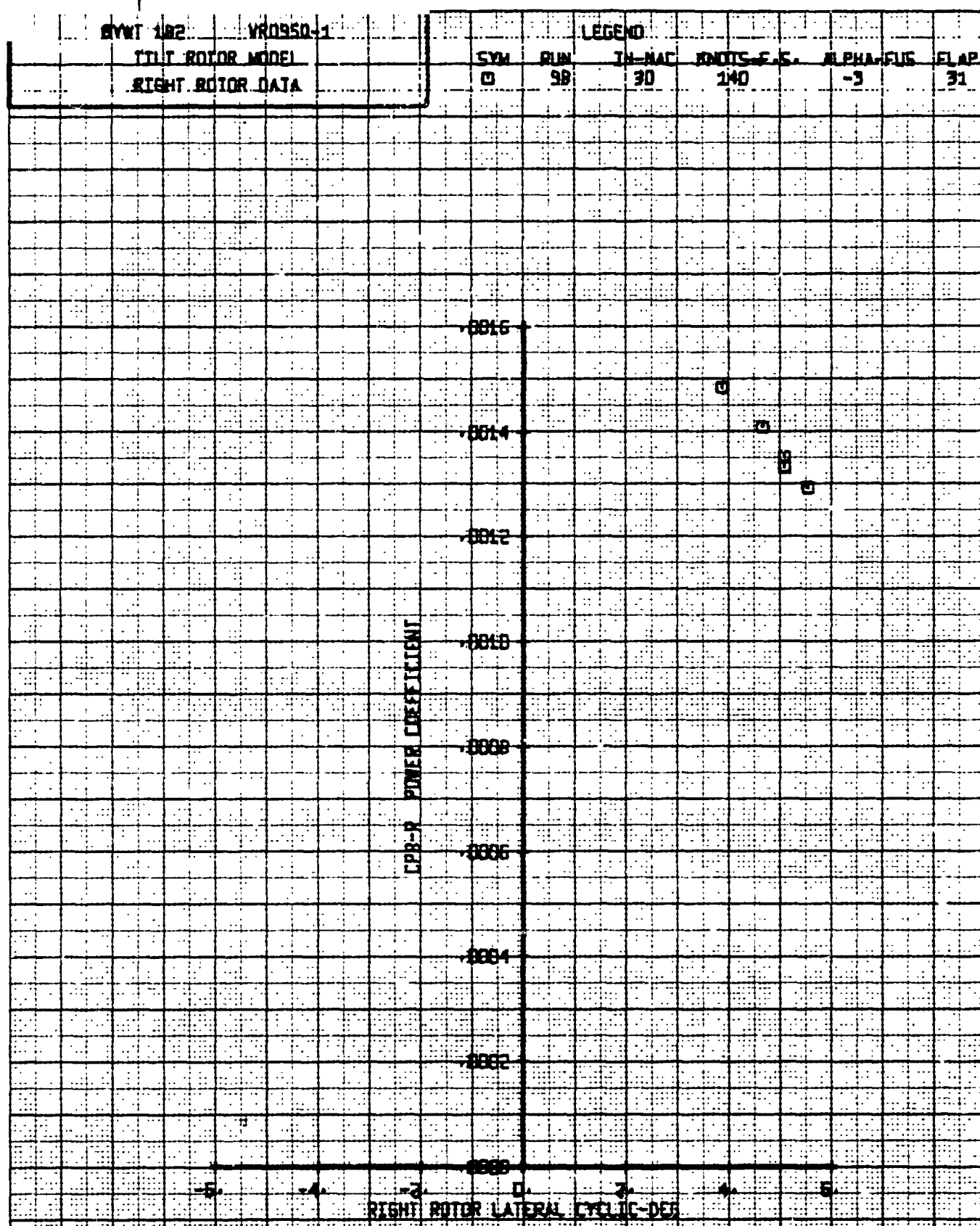
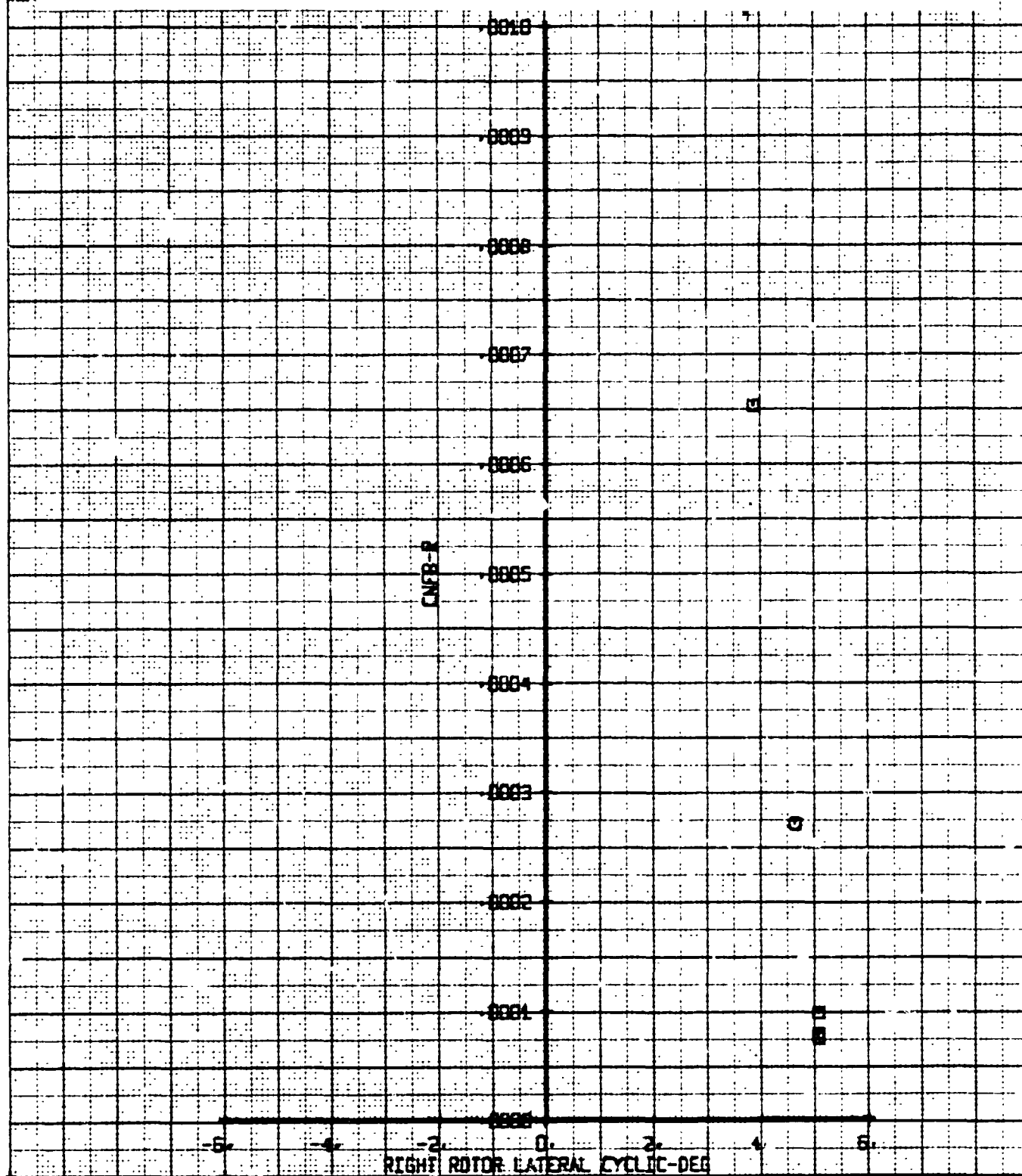


Figure 10-080. Right Rotor Power Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Air-speed 140 Knots.

BYWT 182	VR0950-1	LEGEND					
RIGHT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-DEG	FLAP
RIGHT ROTOR DATA		0	98	30	140	-3	31

Figure 10-081. Right Rotor Normal Force Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



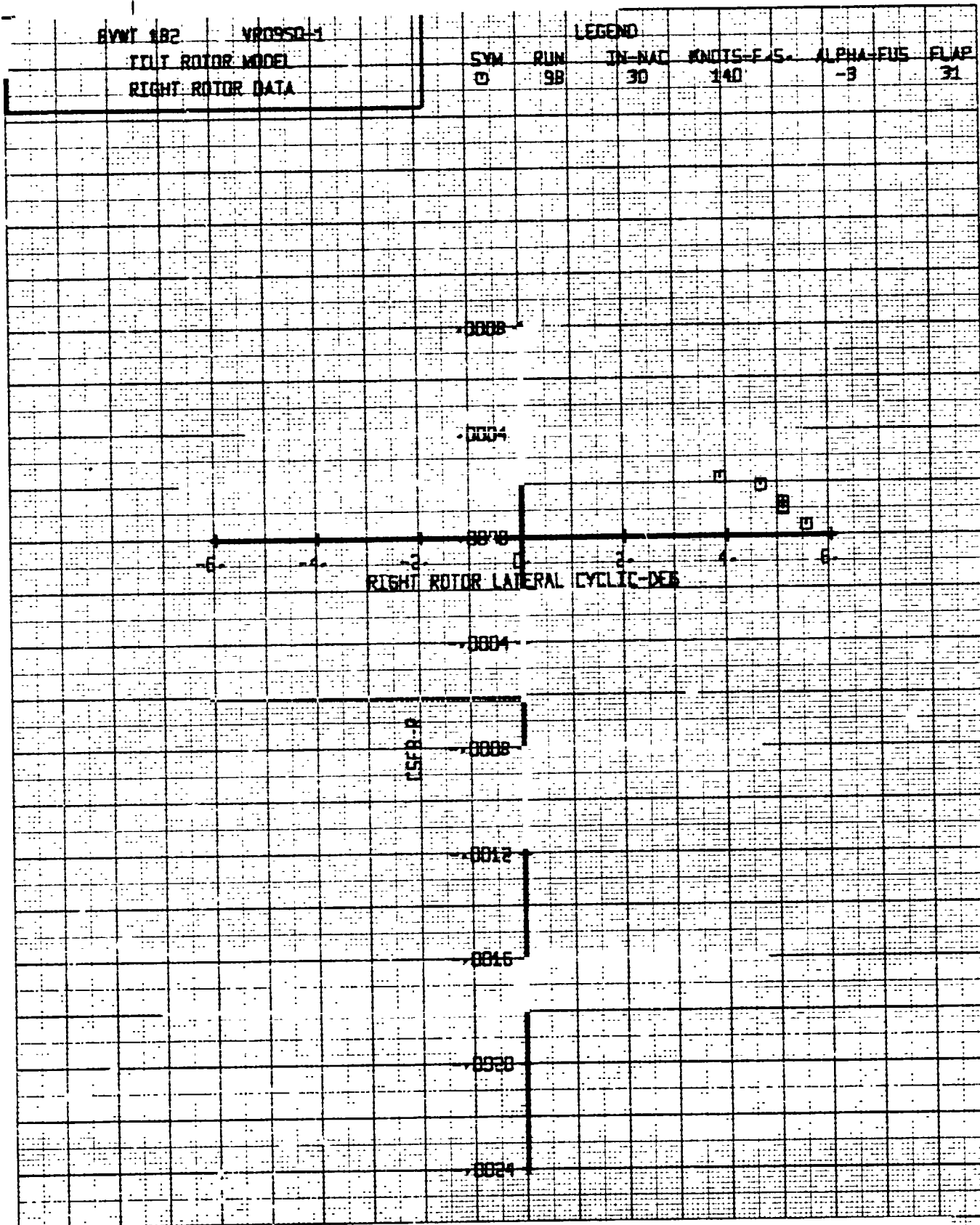
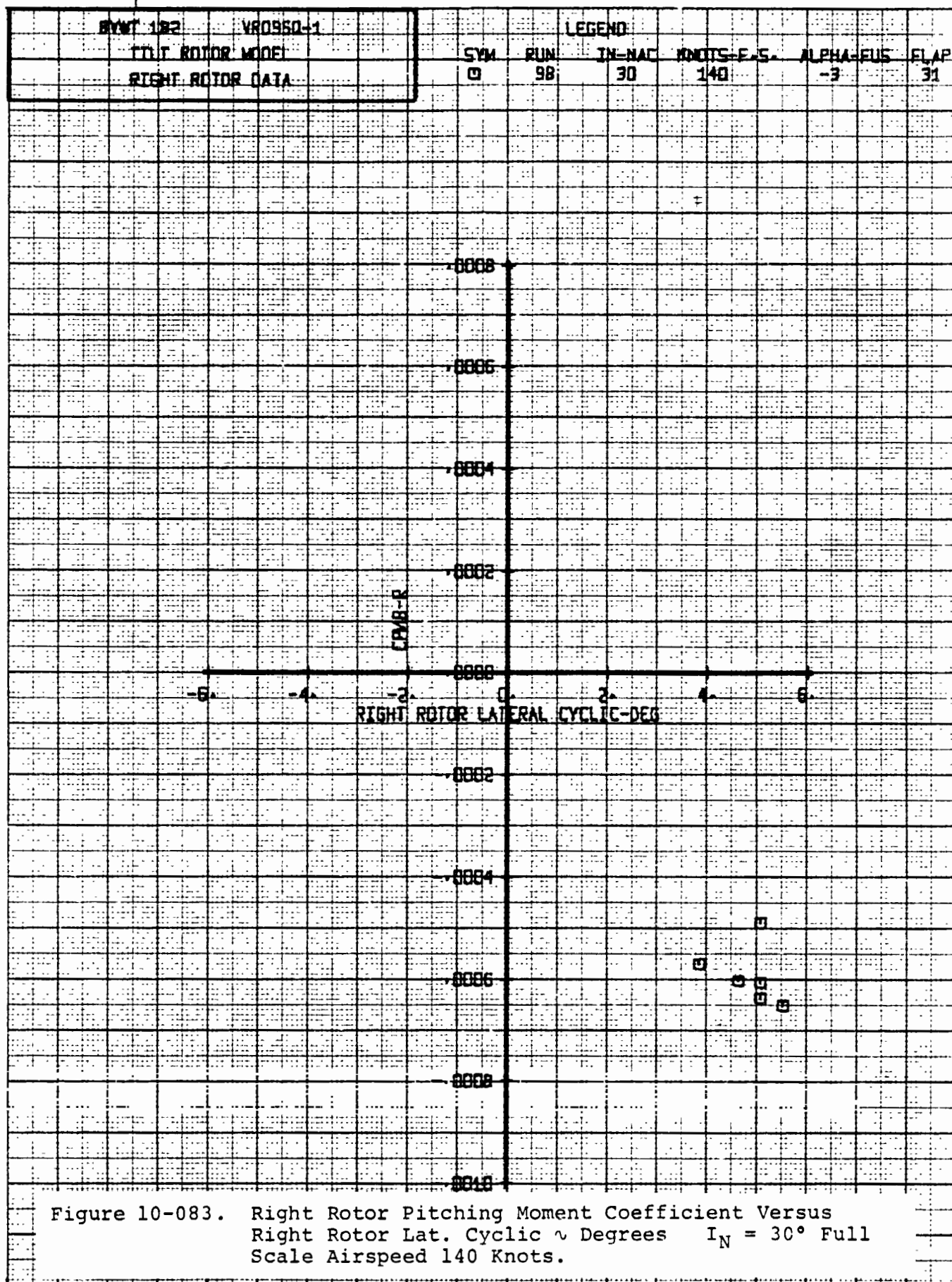
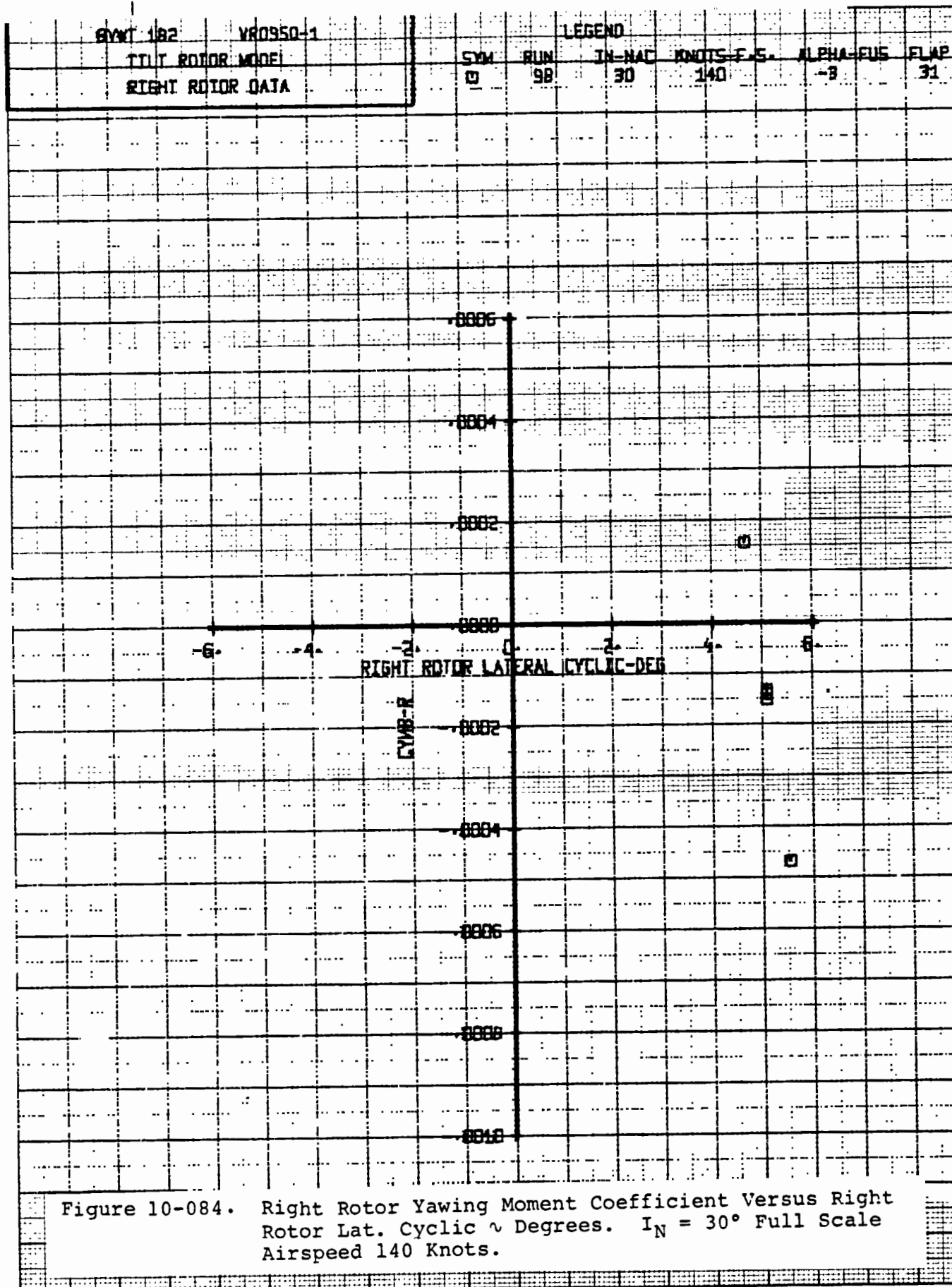


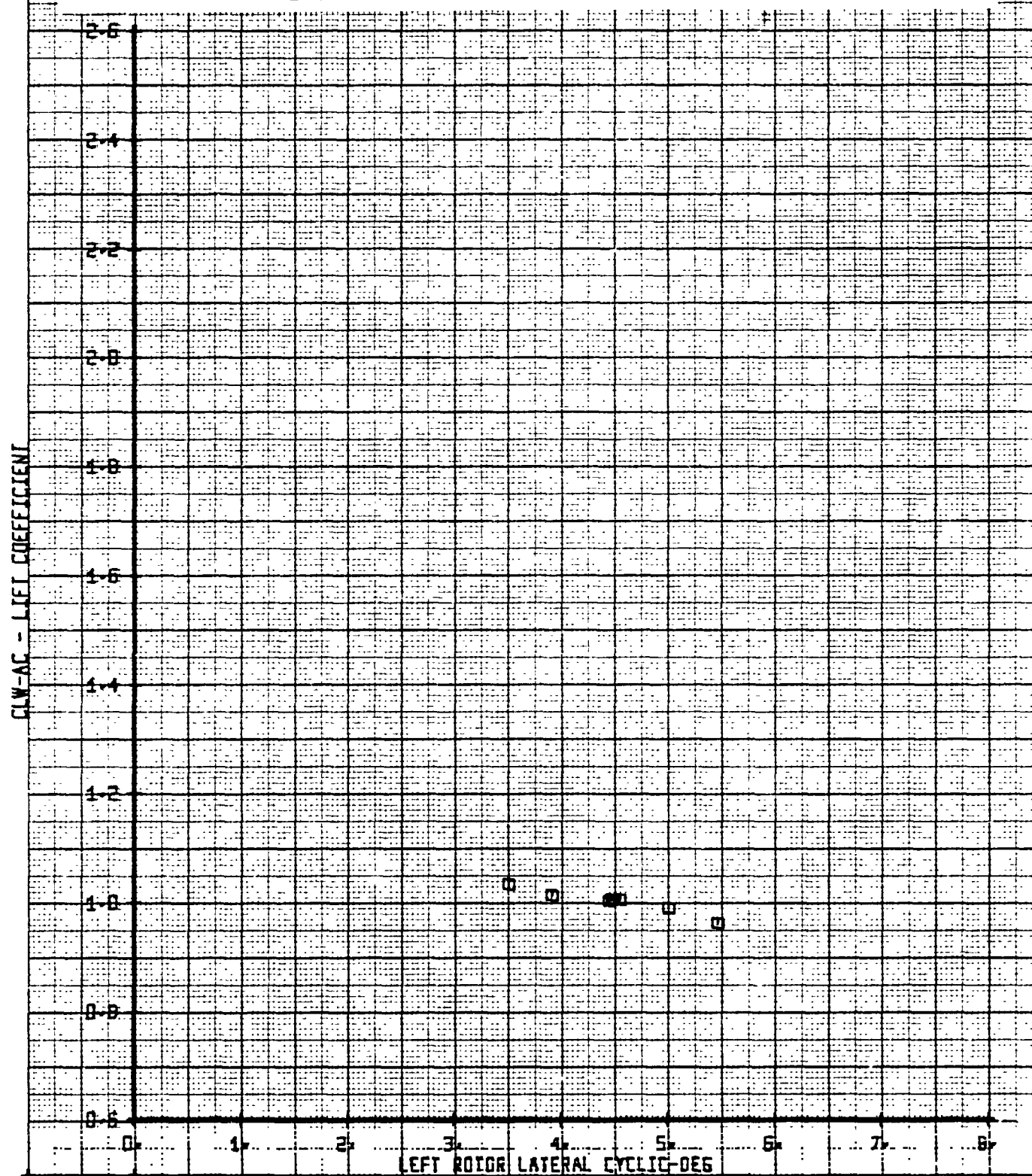
Figure 10-082. Right Rotor Side Force Coefficient Versus Right Rotor Lat. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





BVWT 182	YK0950-1	LEGEND					
TILT ROTOR MODEL		SYM	FLIN	IN-NAF	KNOTS-F.S.	ALPHA-FLTS	FLAP
		0	98	90	140	-3	31

Figure 10-085. Aircraft Lift Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



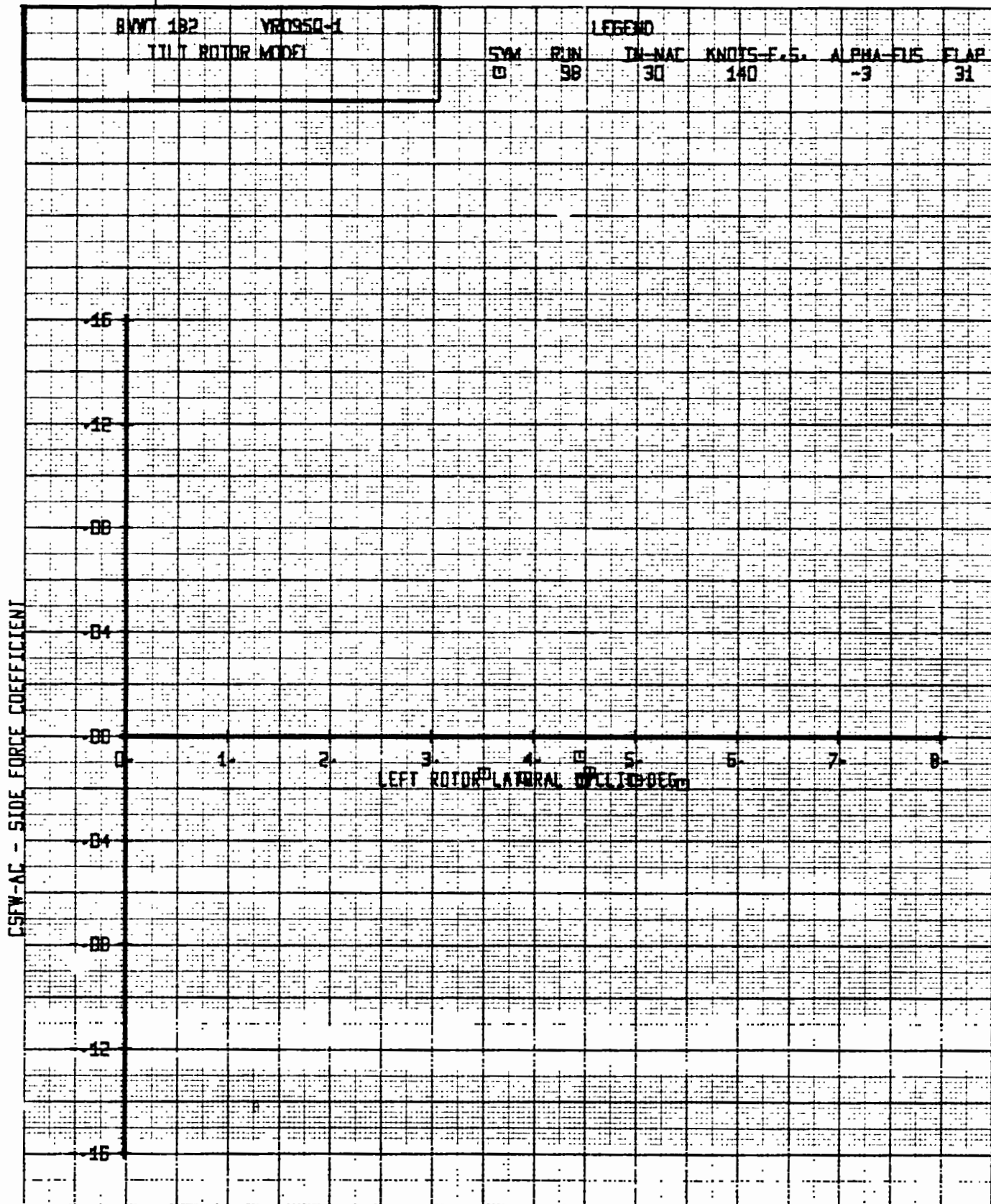


Figure 10-086. Aircraft Side Force Coefficient Versus Left Rotor Lat. Cyclic in Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

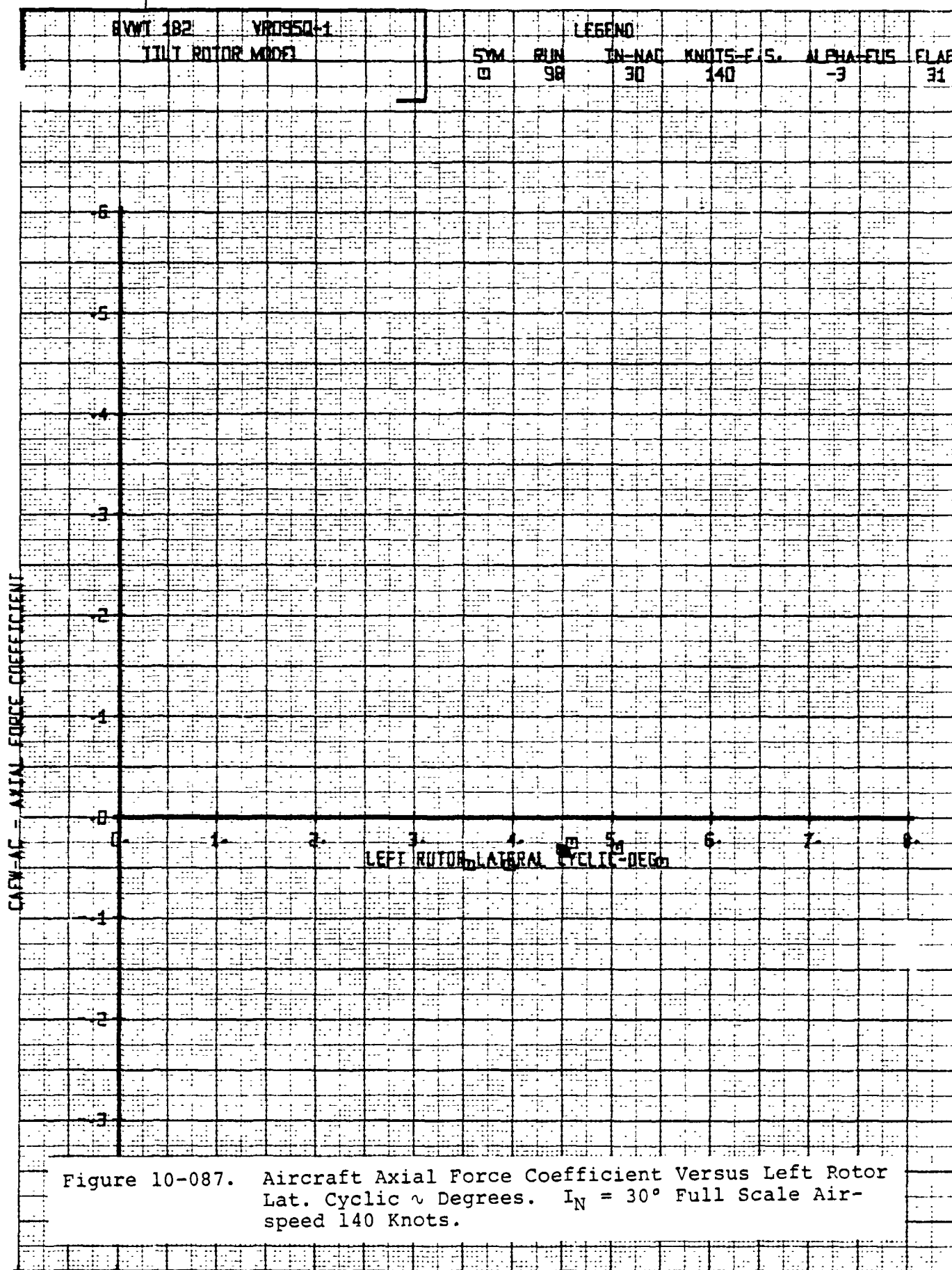
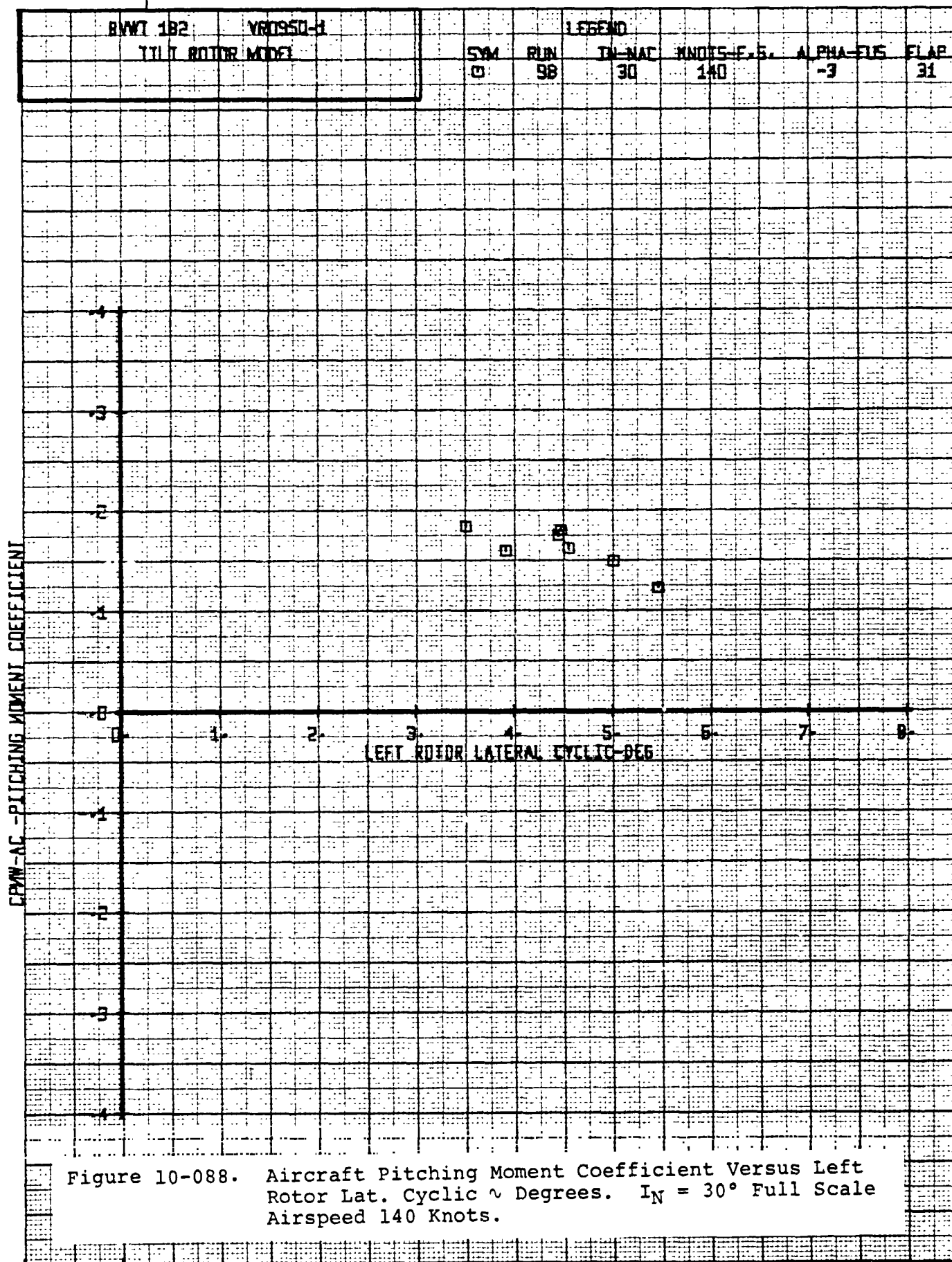


Figure 10-087. Aircraft Axial Force Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



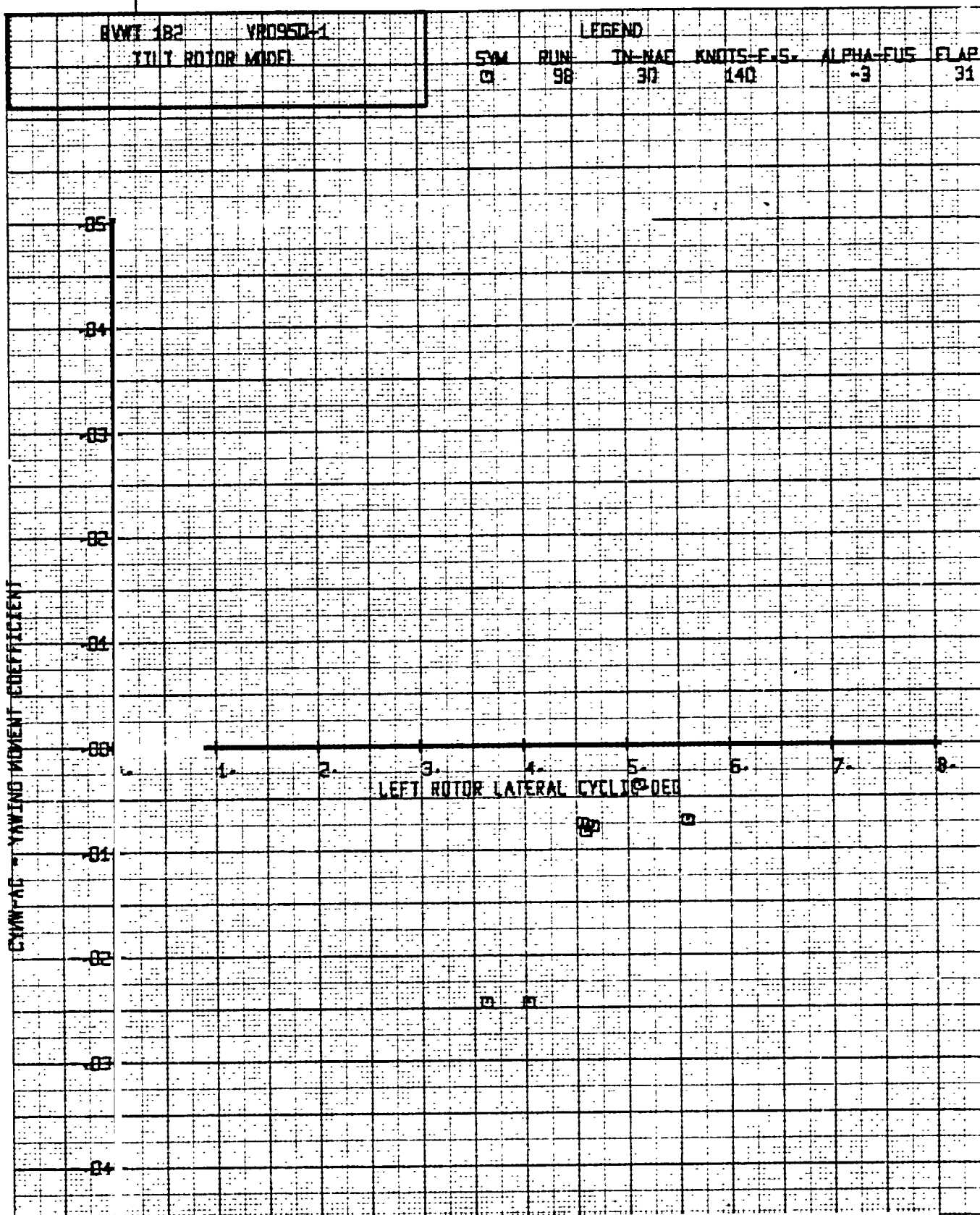
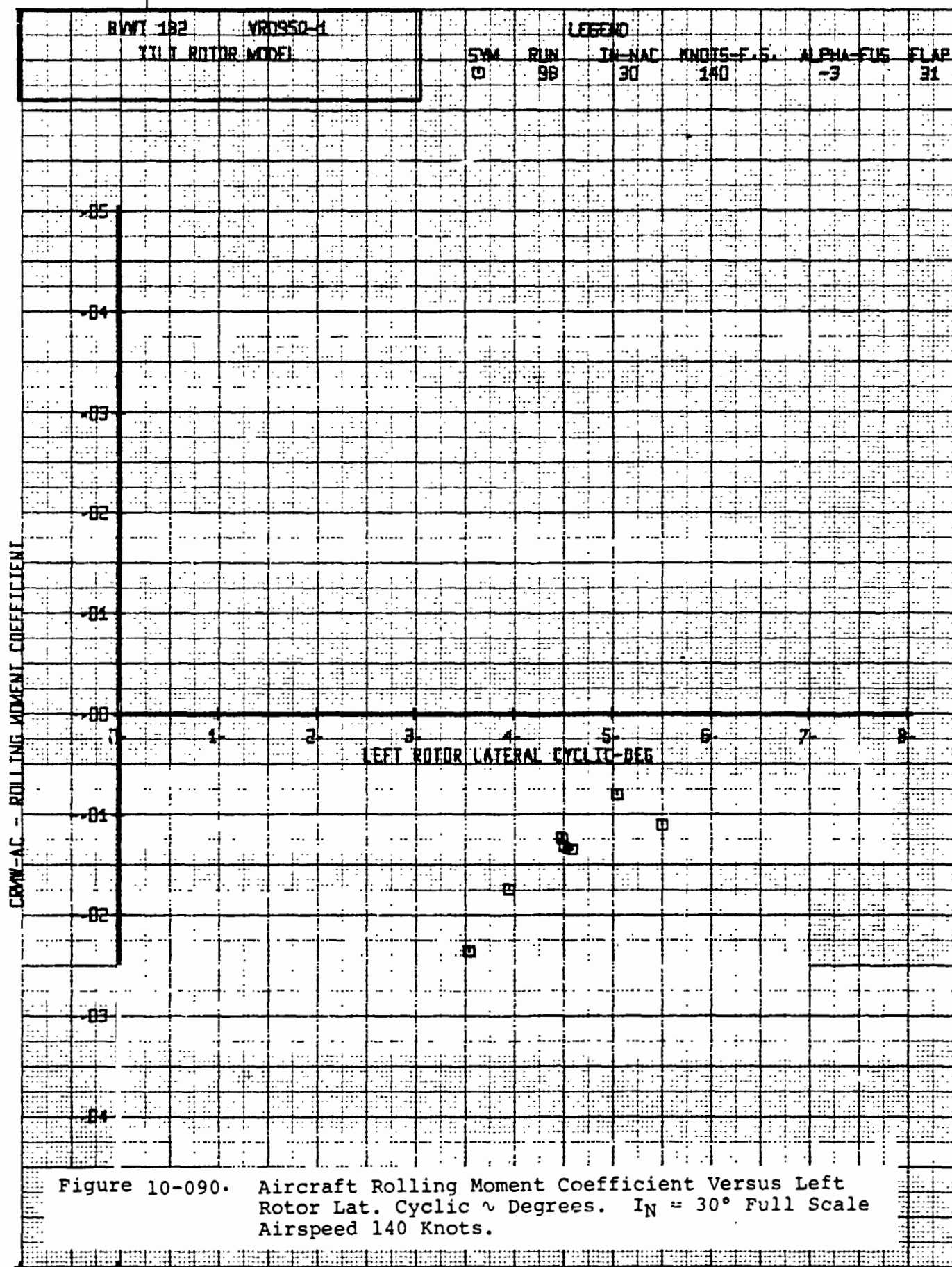
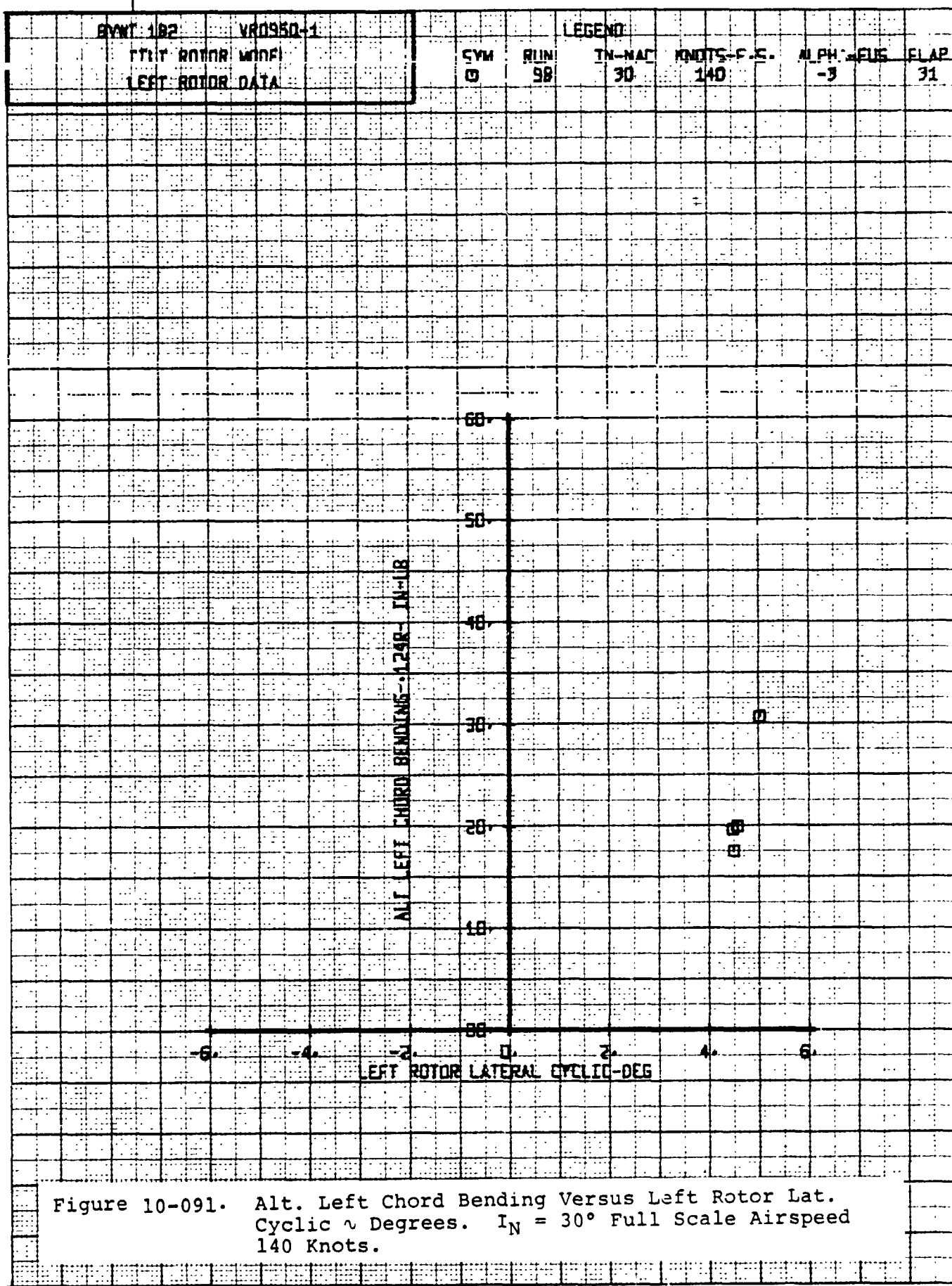


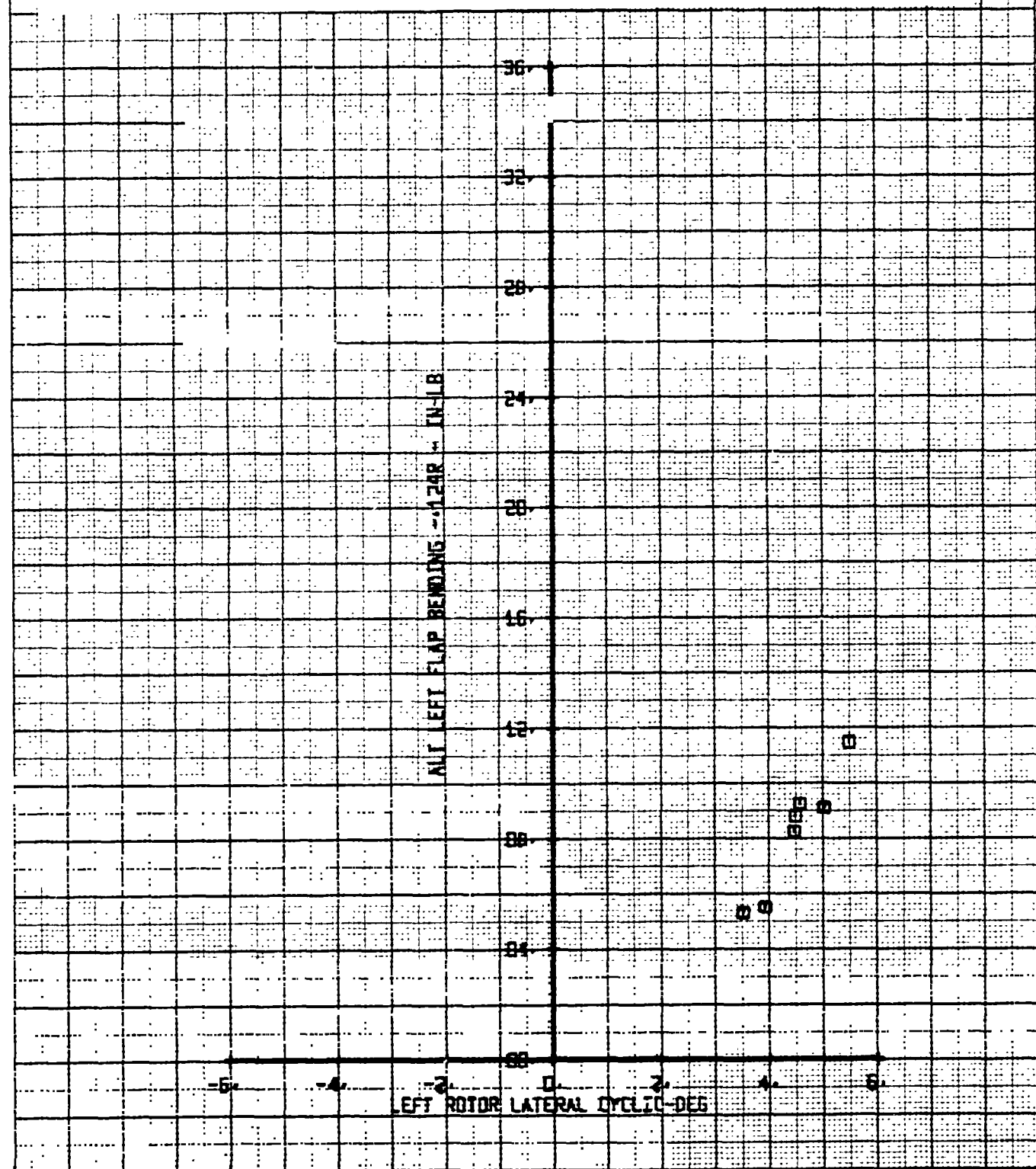
Figure 10-083. Aircraft Yawing Moment Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





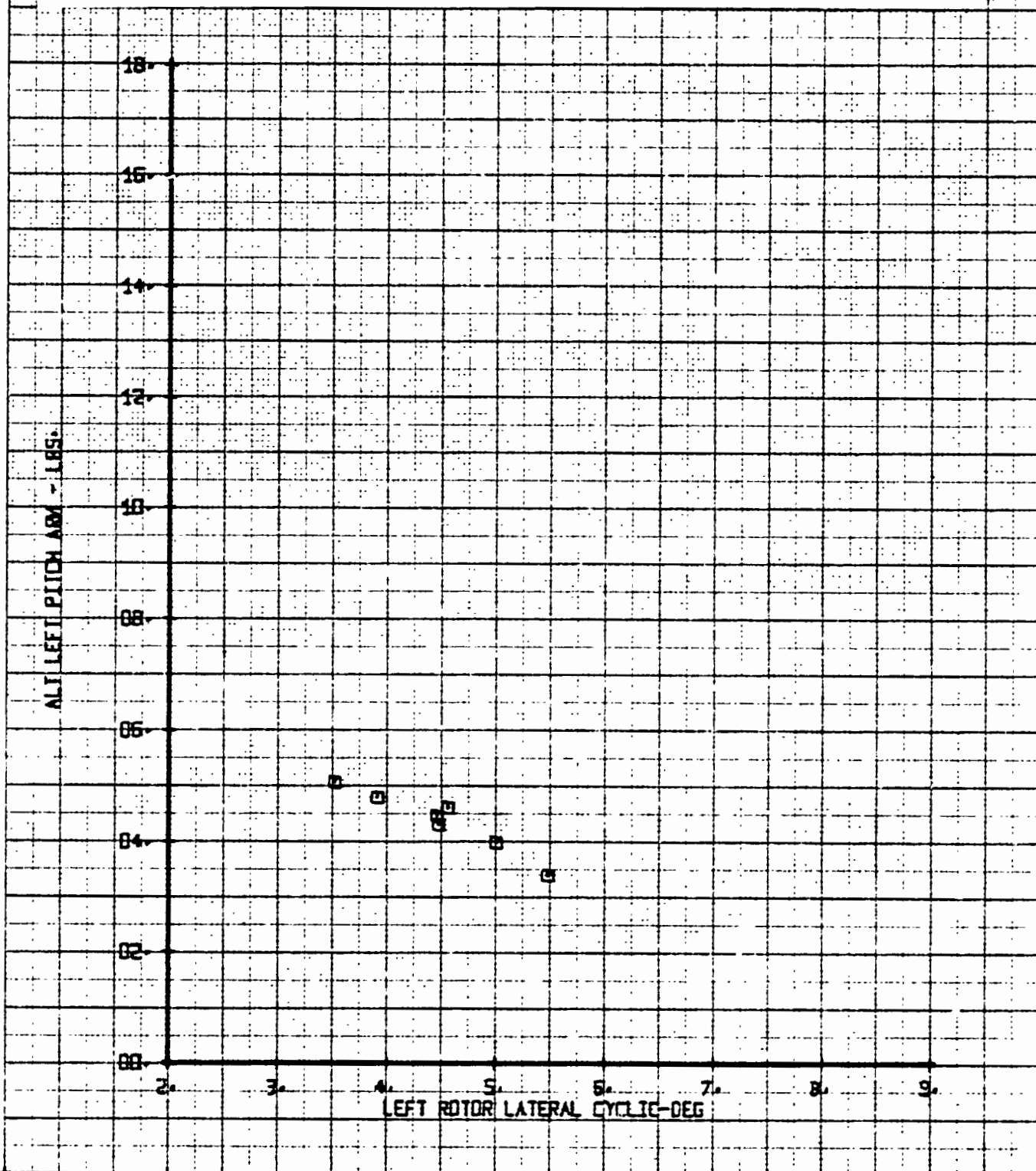
SVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAL	KNOTS-F.S.	ALPHA-DEG
LEFT ROTOR DATA		0	99	30	140	-3
						31

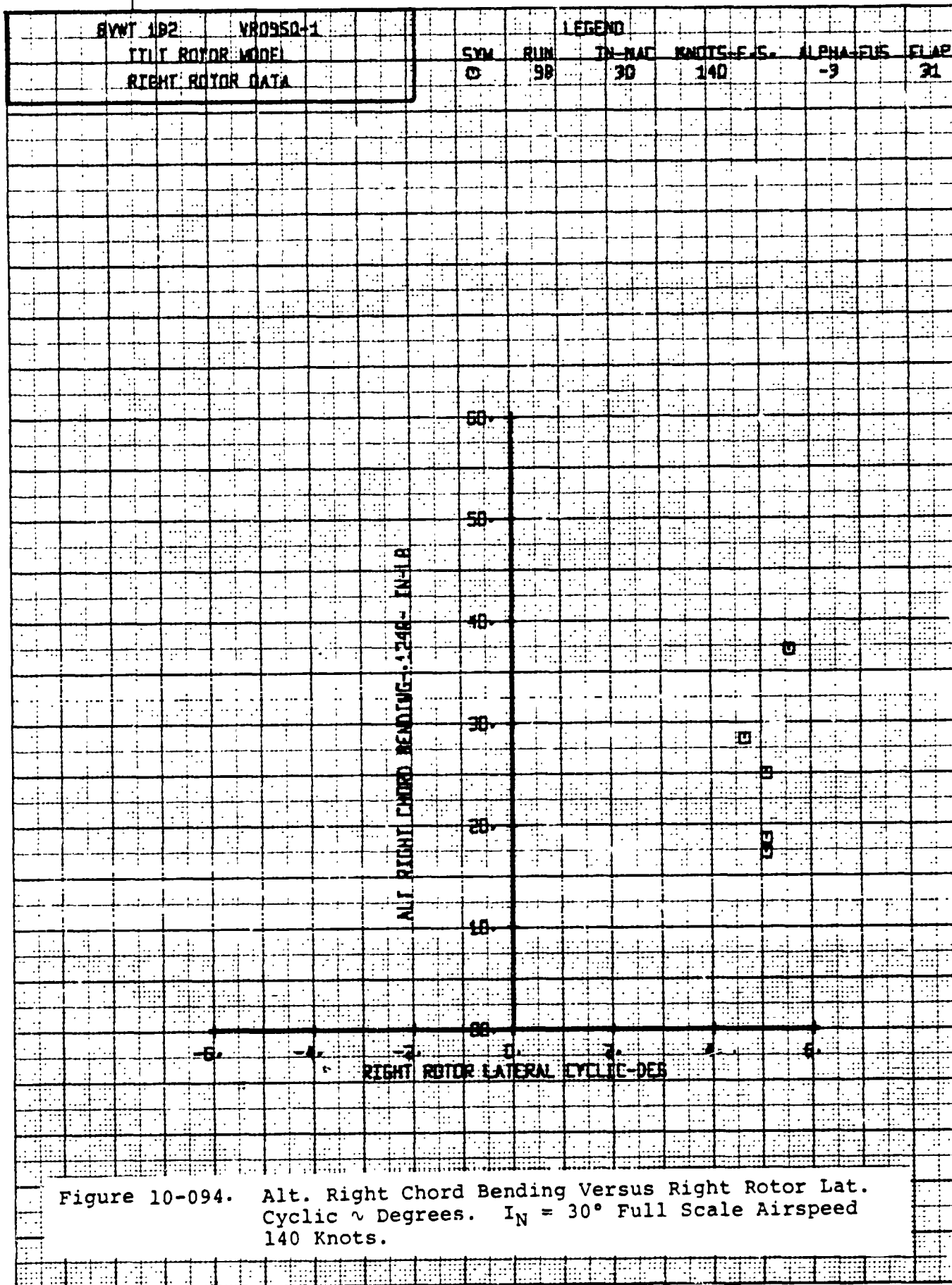
Figure 10-092. Alt. Left Flap Bending Versus Left Rotor Lat.
Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed
140 Knots.



BYWT 182	VR0950-1	LEGEND				
TILT ROTOR MODE		SYM	FLIN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	98	30	140	-3
						FLAP 31

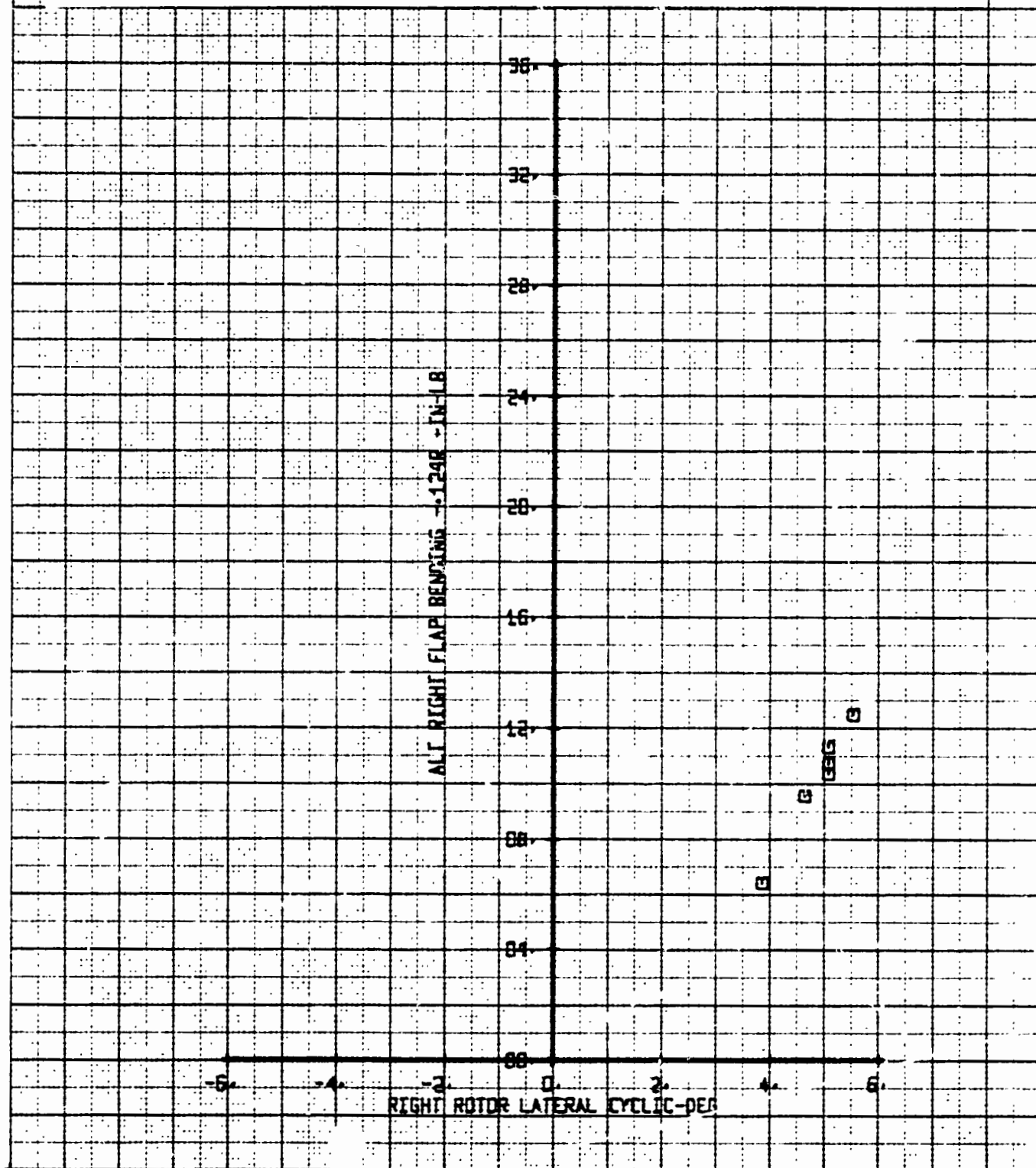
Figure 10-093. Alt. Left Pitch Link Load Versus Left Rotor Lat. Cyclic α degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





BYWT 182	VR0950-1	SYN	RUN	IN-HAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR DATA		0	98	30	140	-3	31

Figure 10-095. Alt. Right Flap Bending Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



BVWT 182 YR0950-1

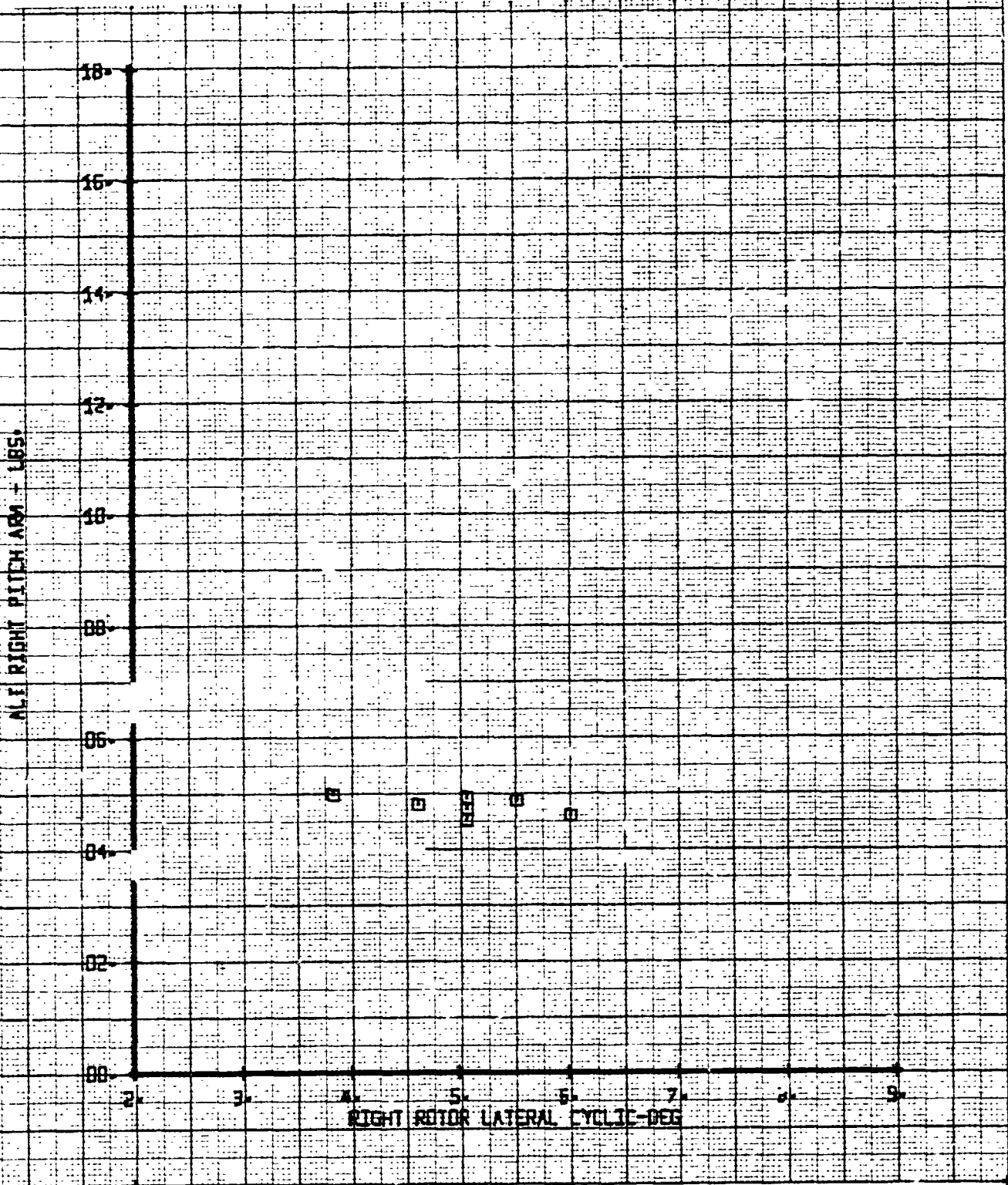
LEFT ROTOR MODEL

RIGHT ROTOR DATA

LEGEND

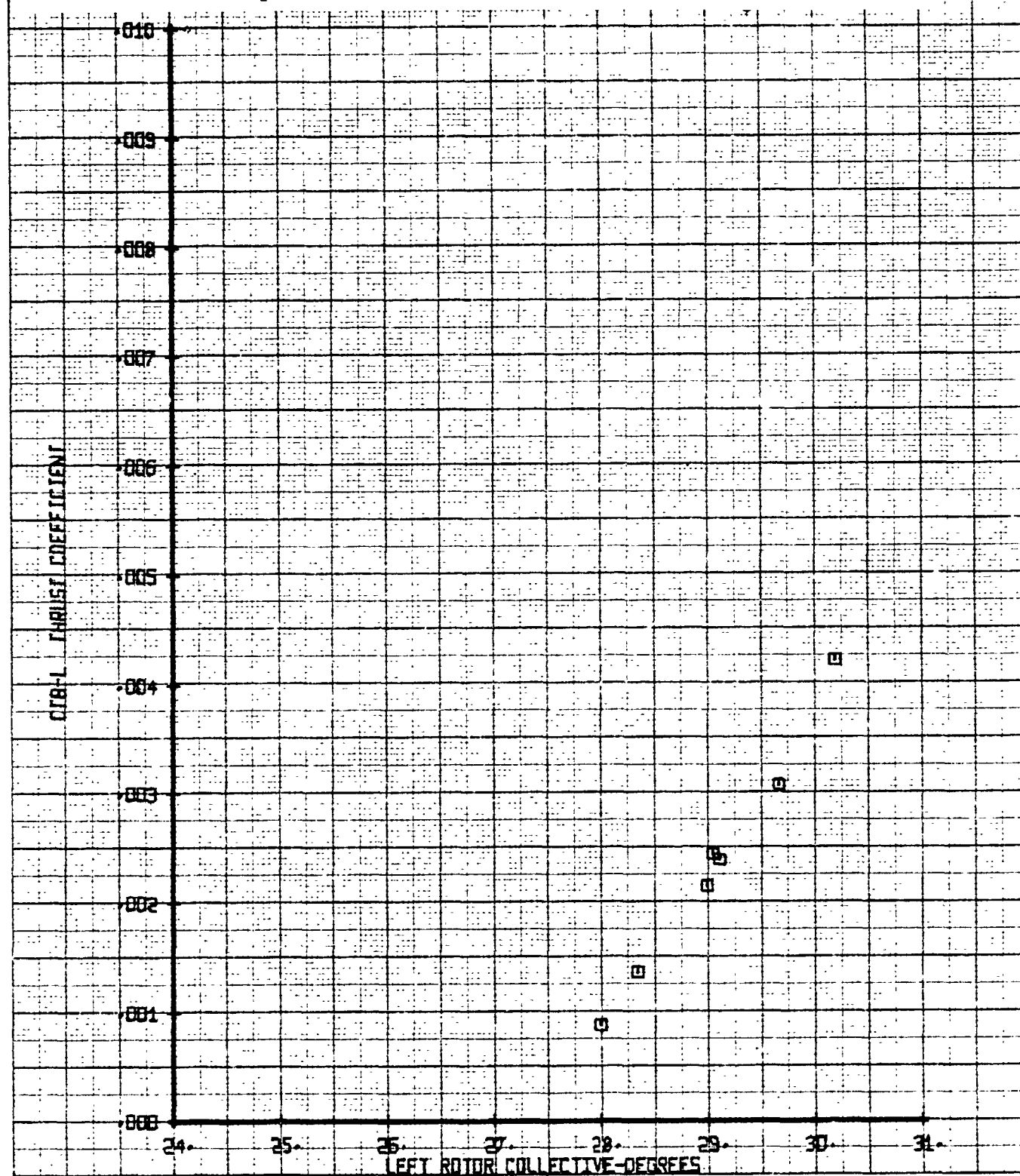
SYM
CRUN
98IN-NAC
30KNOTS-F.E.
140ALPHA-FUS
-3FLAP
31

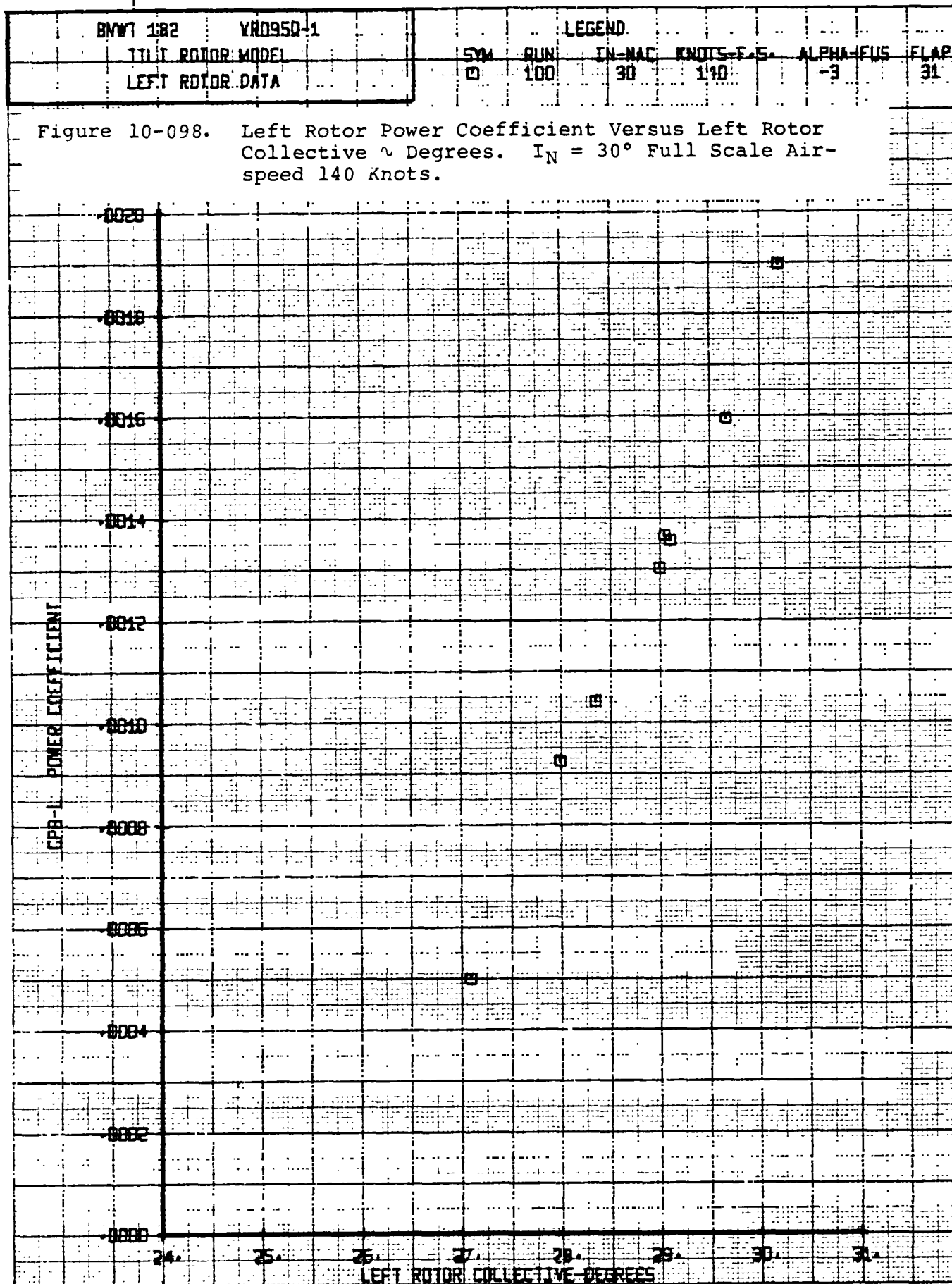
Figure 10-096. Alt. Right Pitch Link Load Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

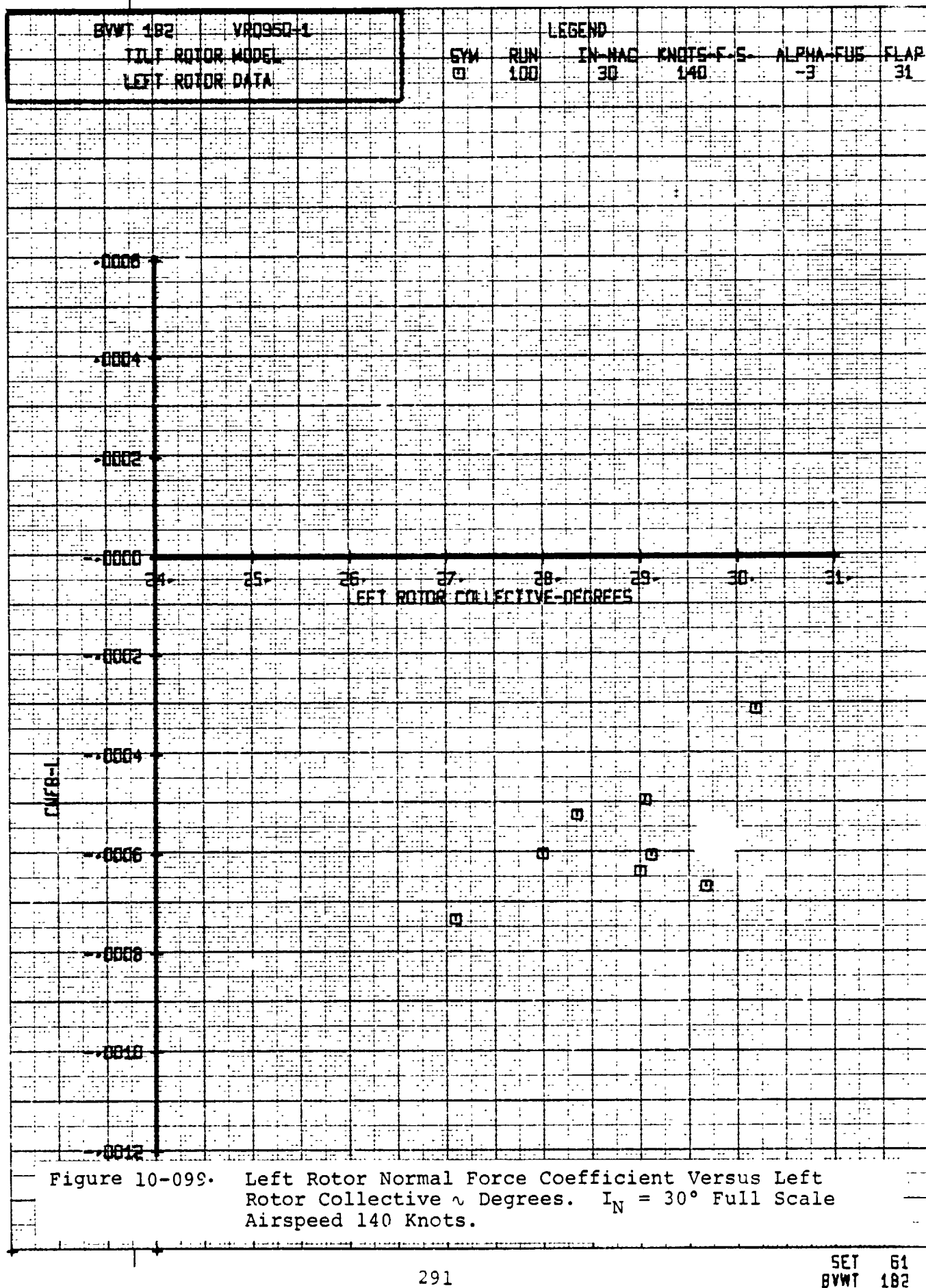


BVWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F-S	ALPHA-FUS
LEFT ROTOR DATA		□	100	30	140	-3
						FLAP 31

Figure 10-097. Left Rotor Thrust Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.







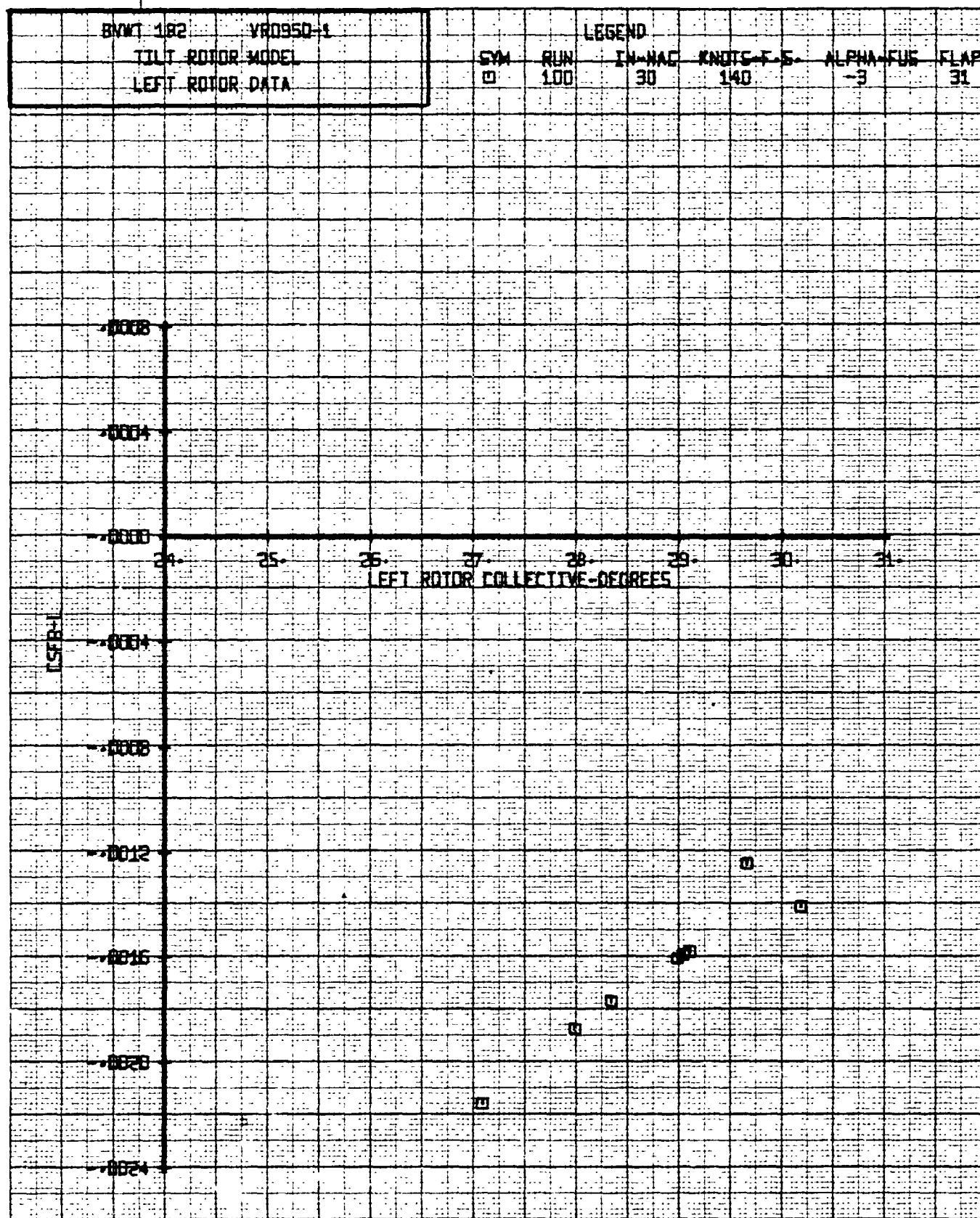


Figure 10-100. Left Rotor Side Force Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

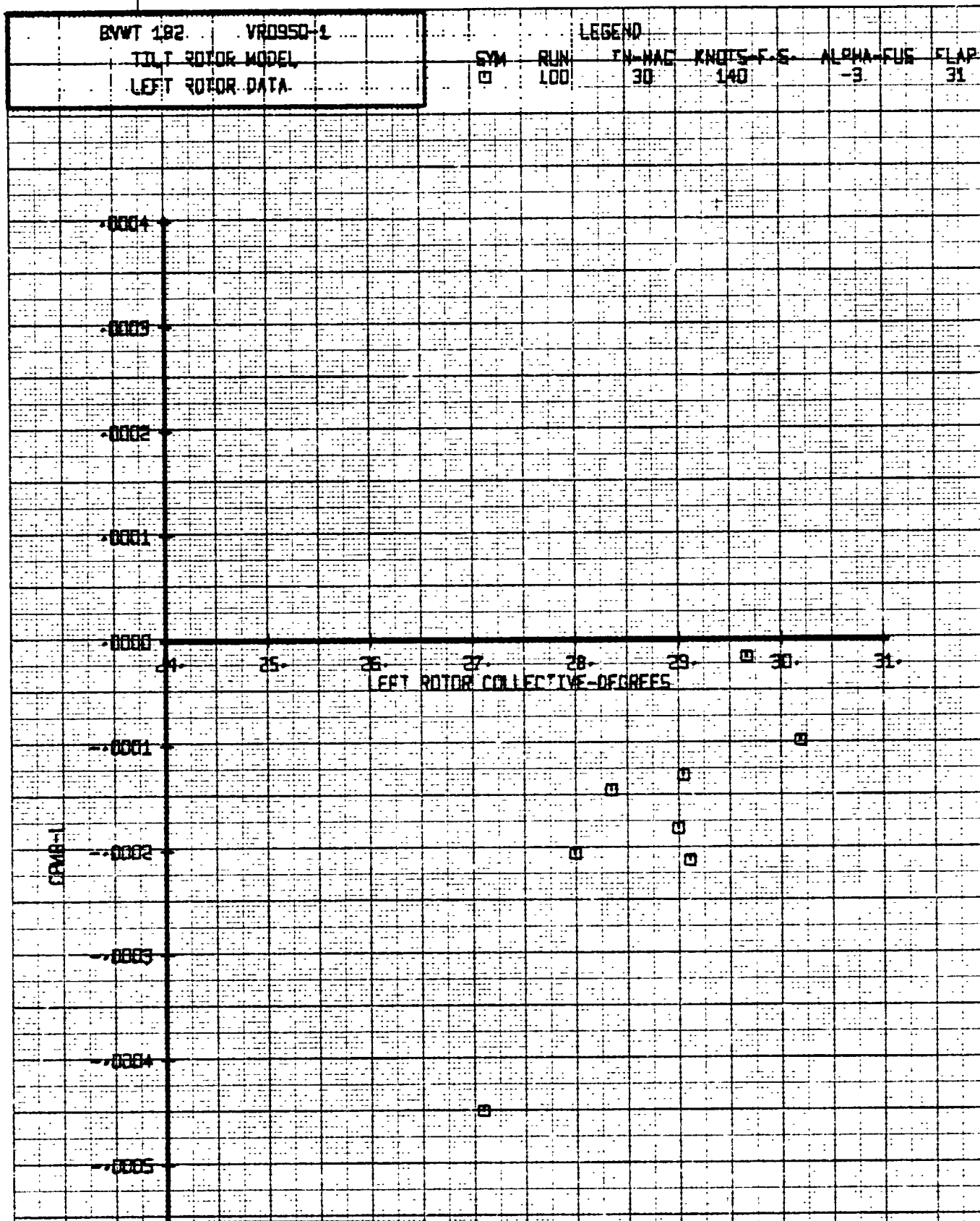
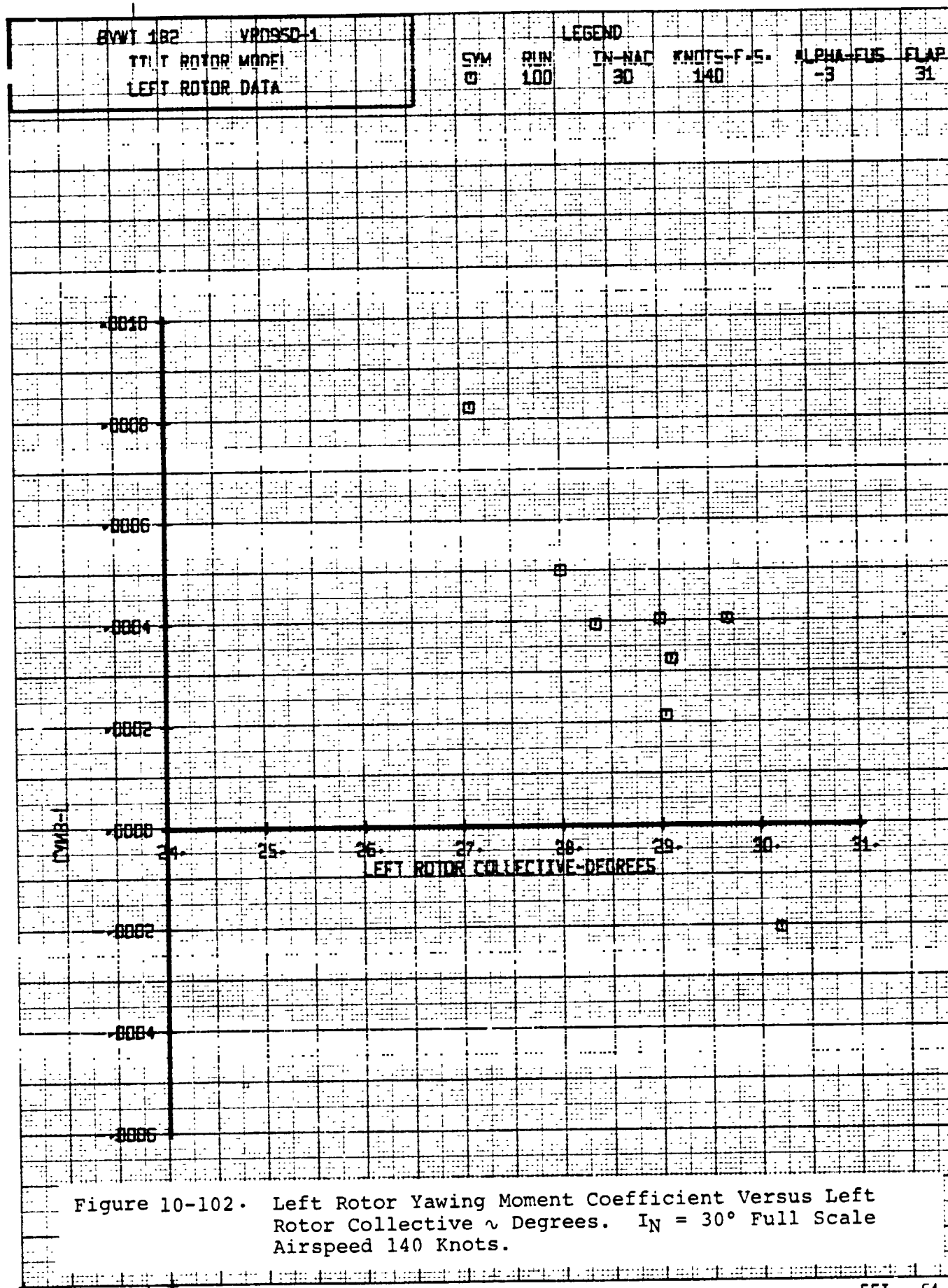
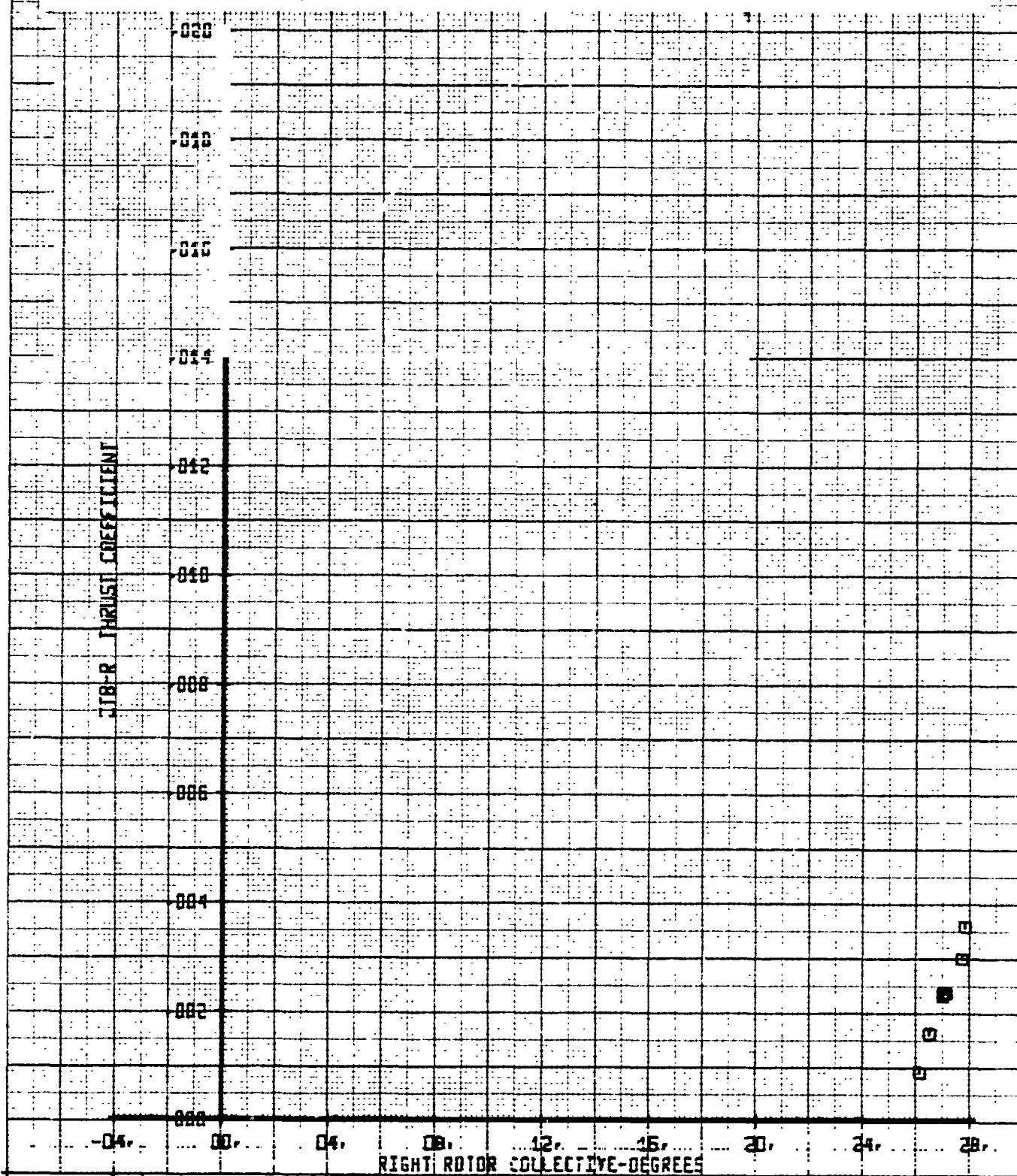


Figure 10-101. Left Rotor Pitching Moment Coefficient Versus Left Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



RVWT 182	VR0950-1	LEGEND				
YUT ROTOR MODEL		SYM	RUN	IN-MAF	KNOTS-E.S.	ALPHA-EUS
RIGHT ROTOR DATA		0	100	30	140	-3
						31

Figure 10-103 - Right Rotor Thrust Coefficient Versus Right Rotor Collective γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



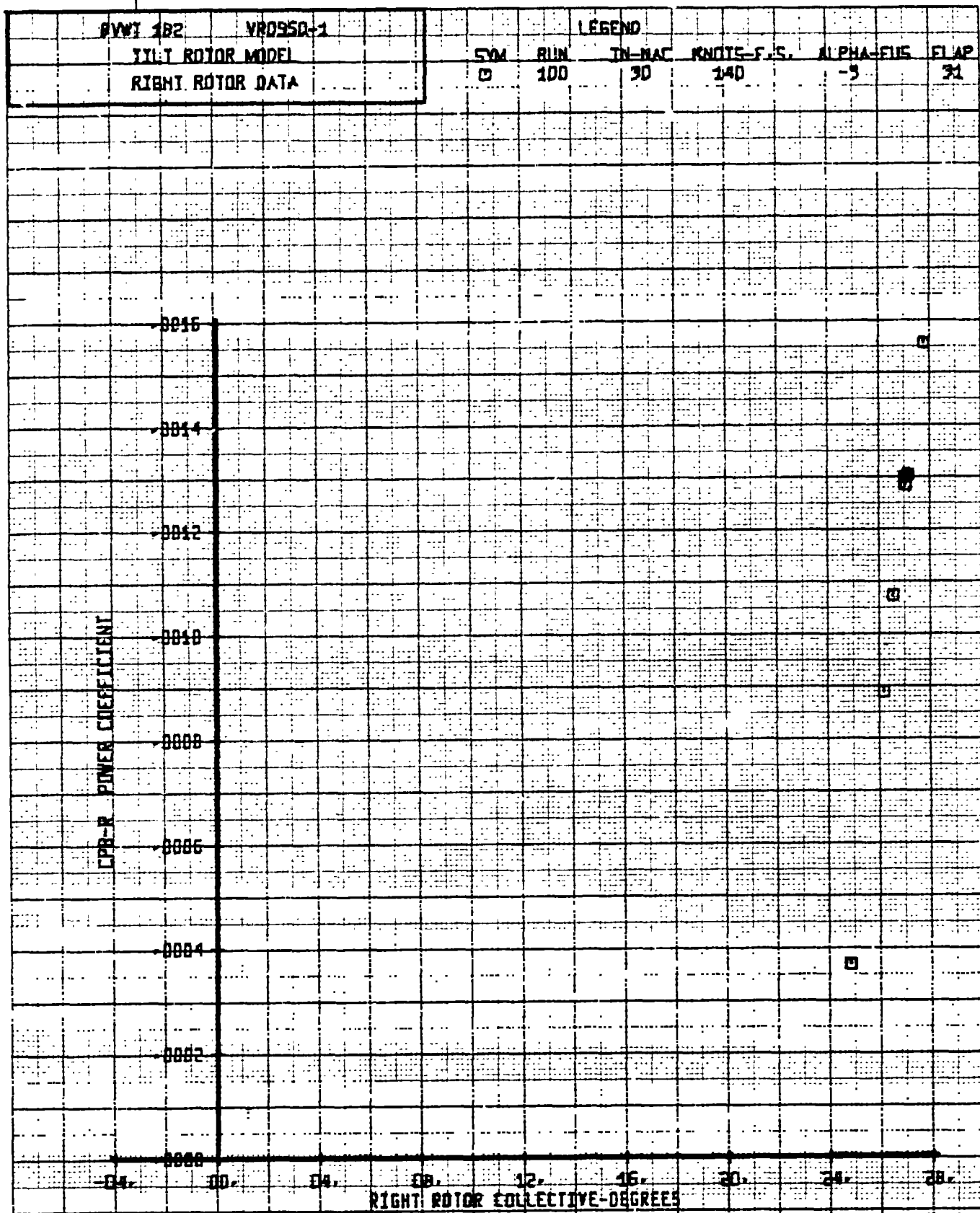
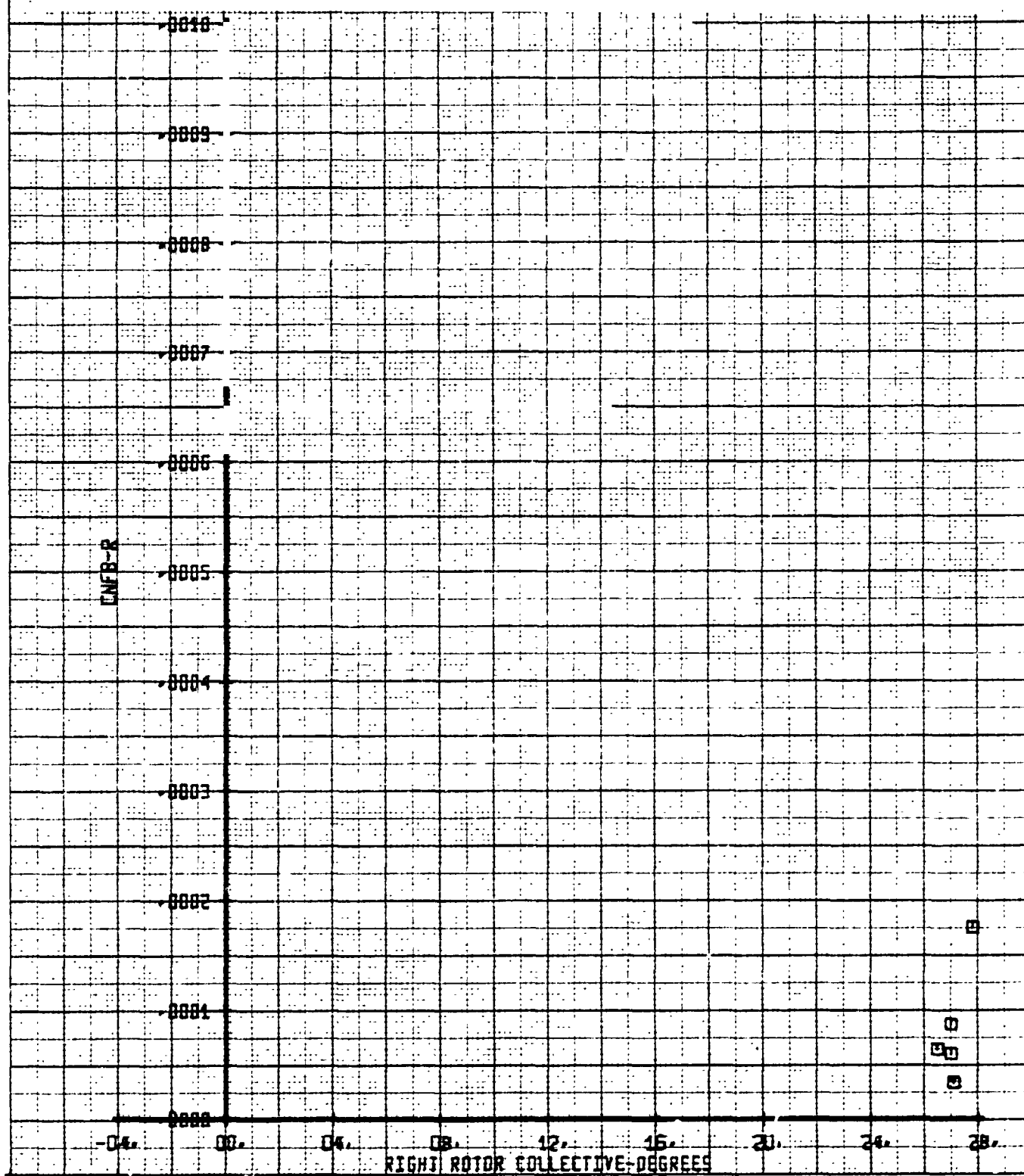
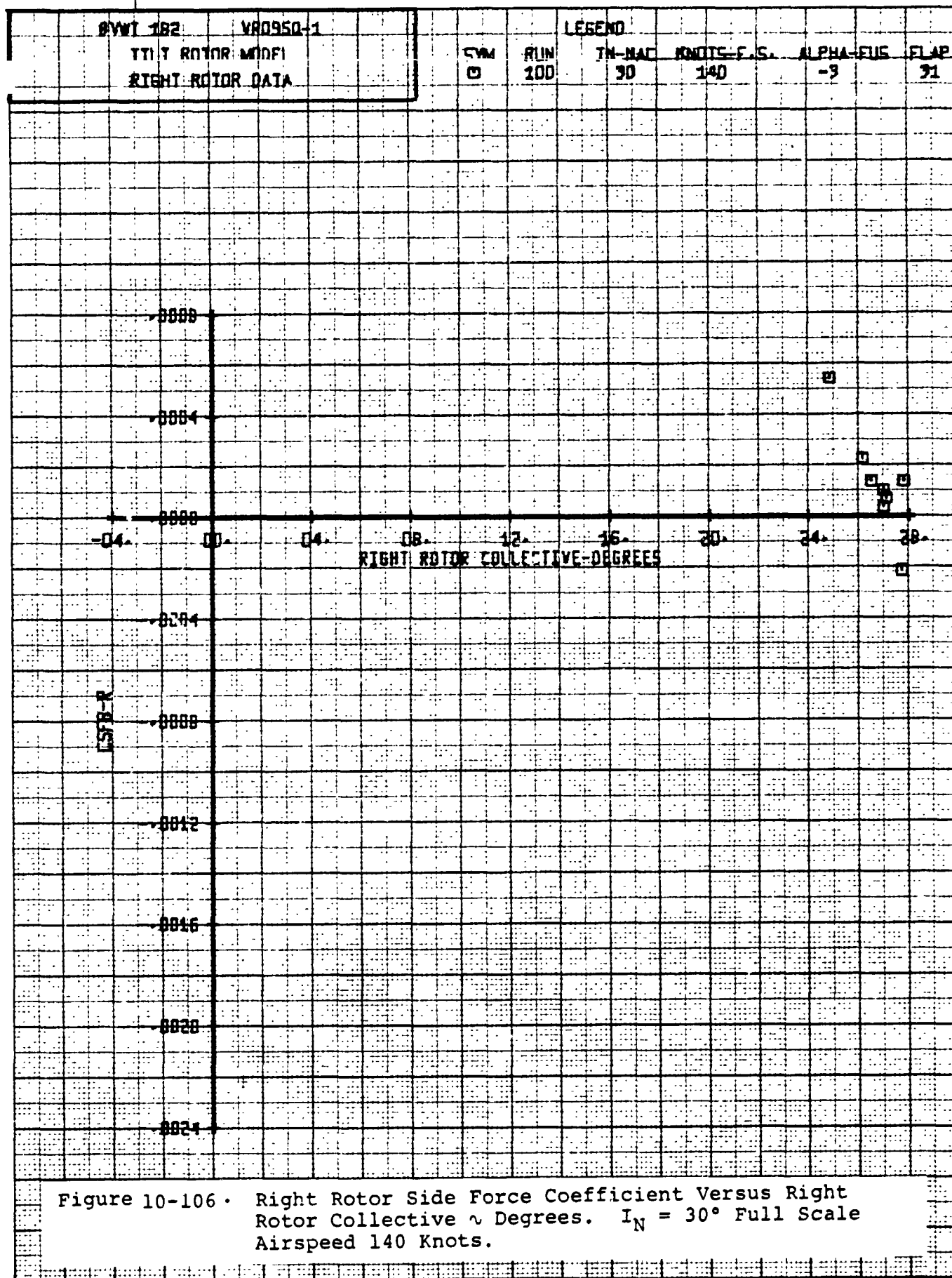


Figure 10-104. Right Rotor Power Coefficient Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182		VR0350-1		LEGEND							
TILT ROTOR MODEL		RIGHT ROTOR DATA		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP		
				0	100	30	140	-3	31		

Figure 10-105. Right Rotor Normal Force Coefficient Versus Right Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





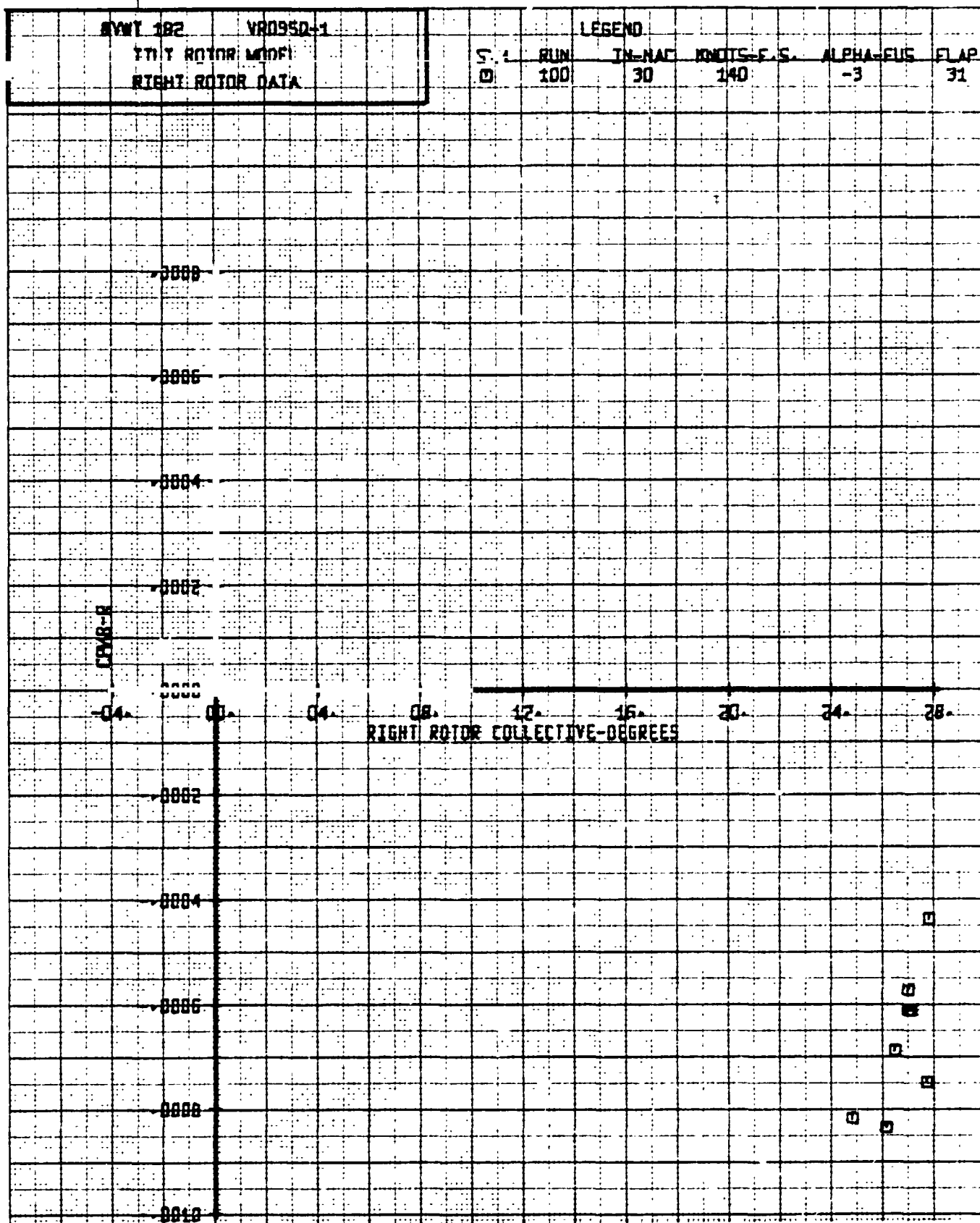
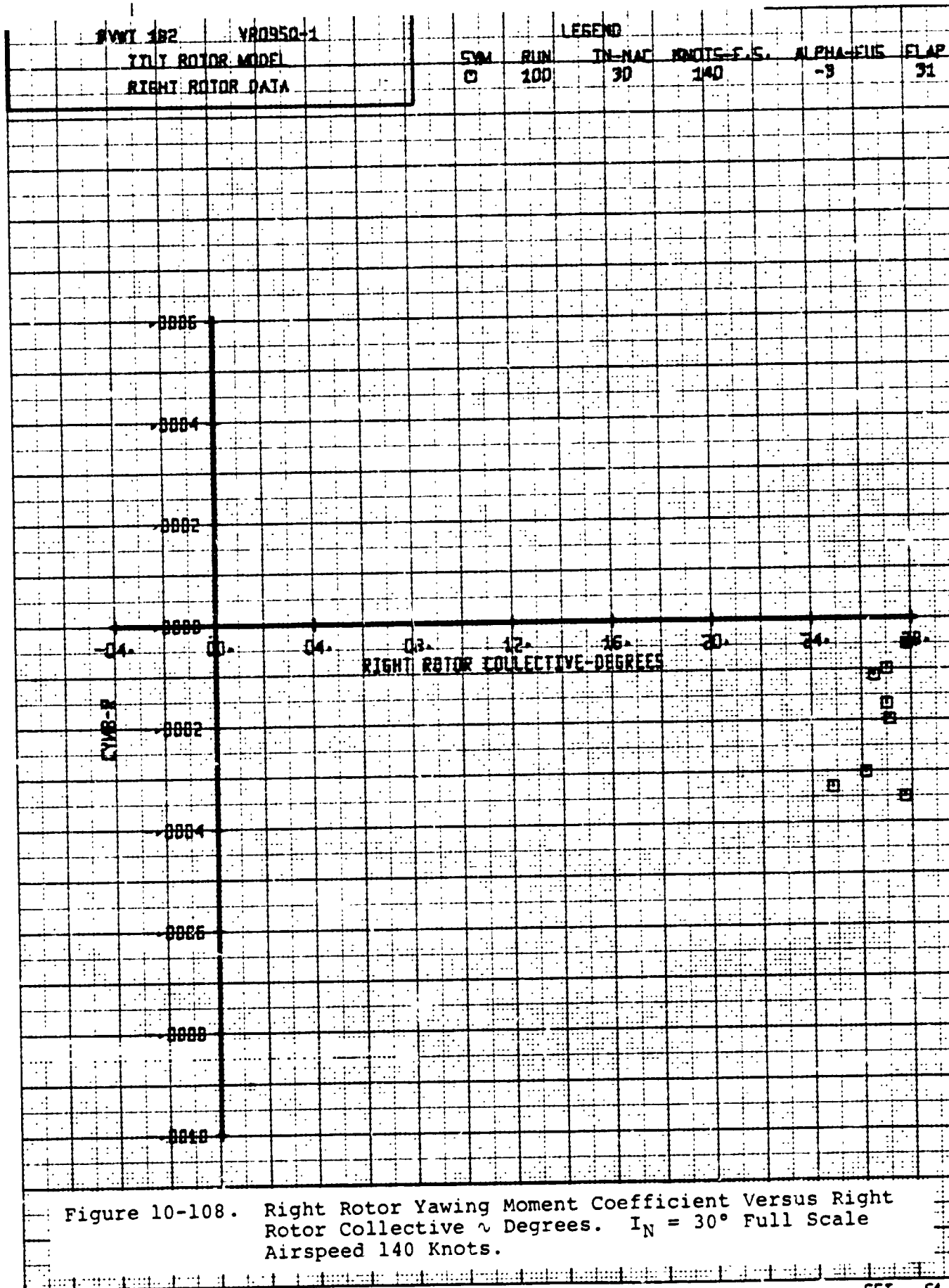
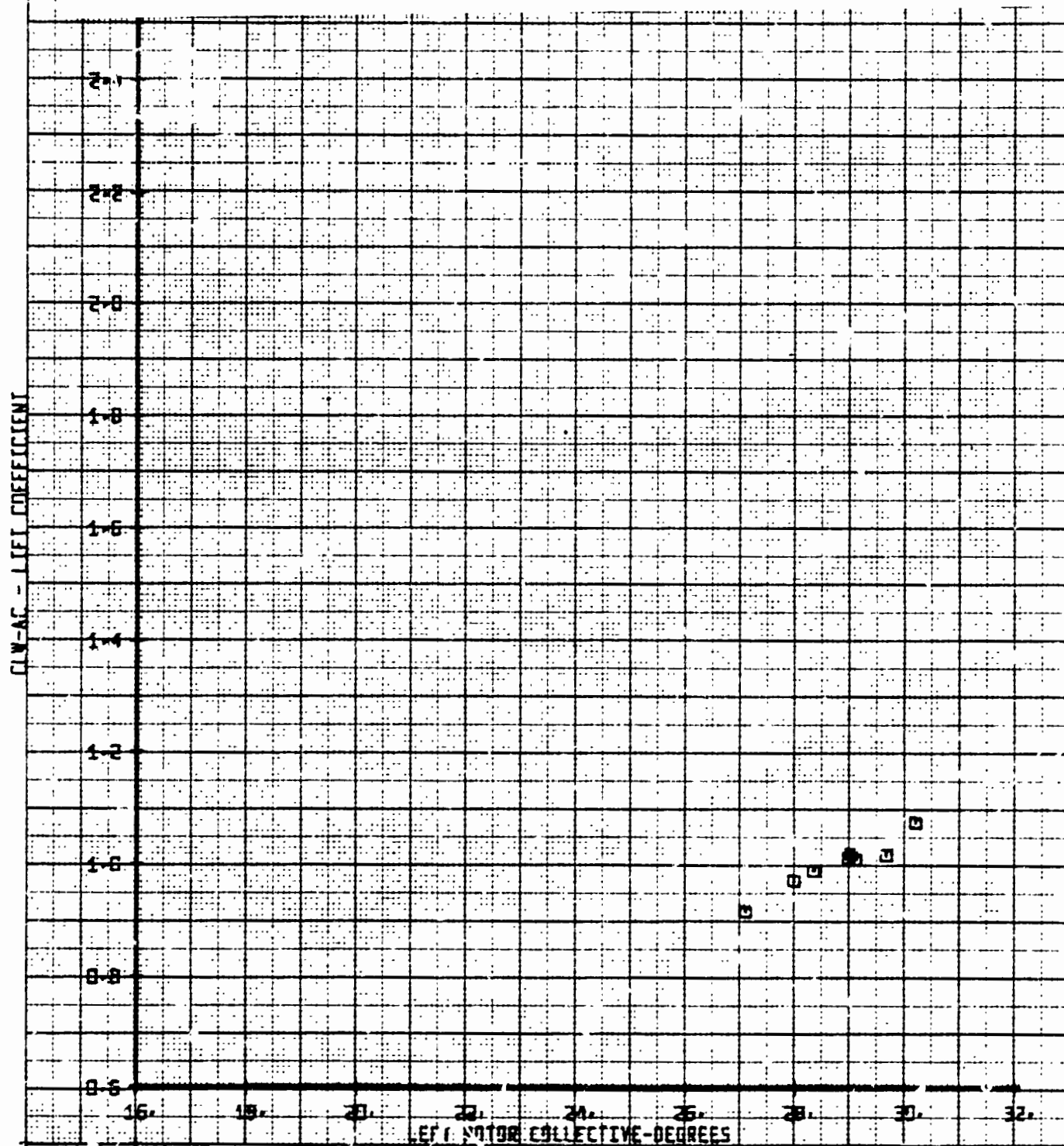


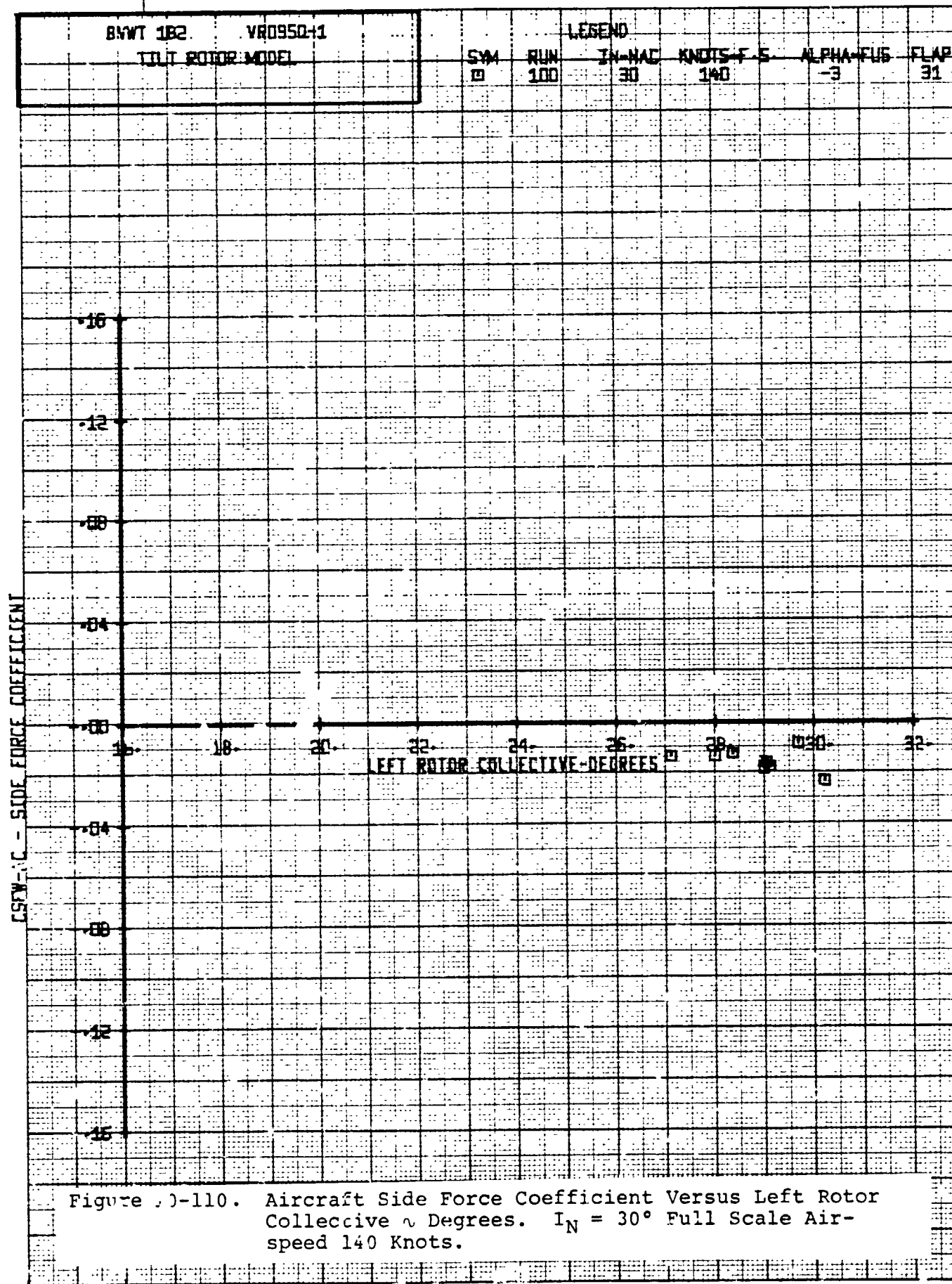
Figure 10-107 • Right Rotor Pitching Moment Coefficient Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

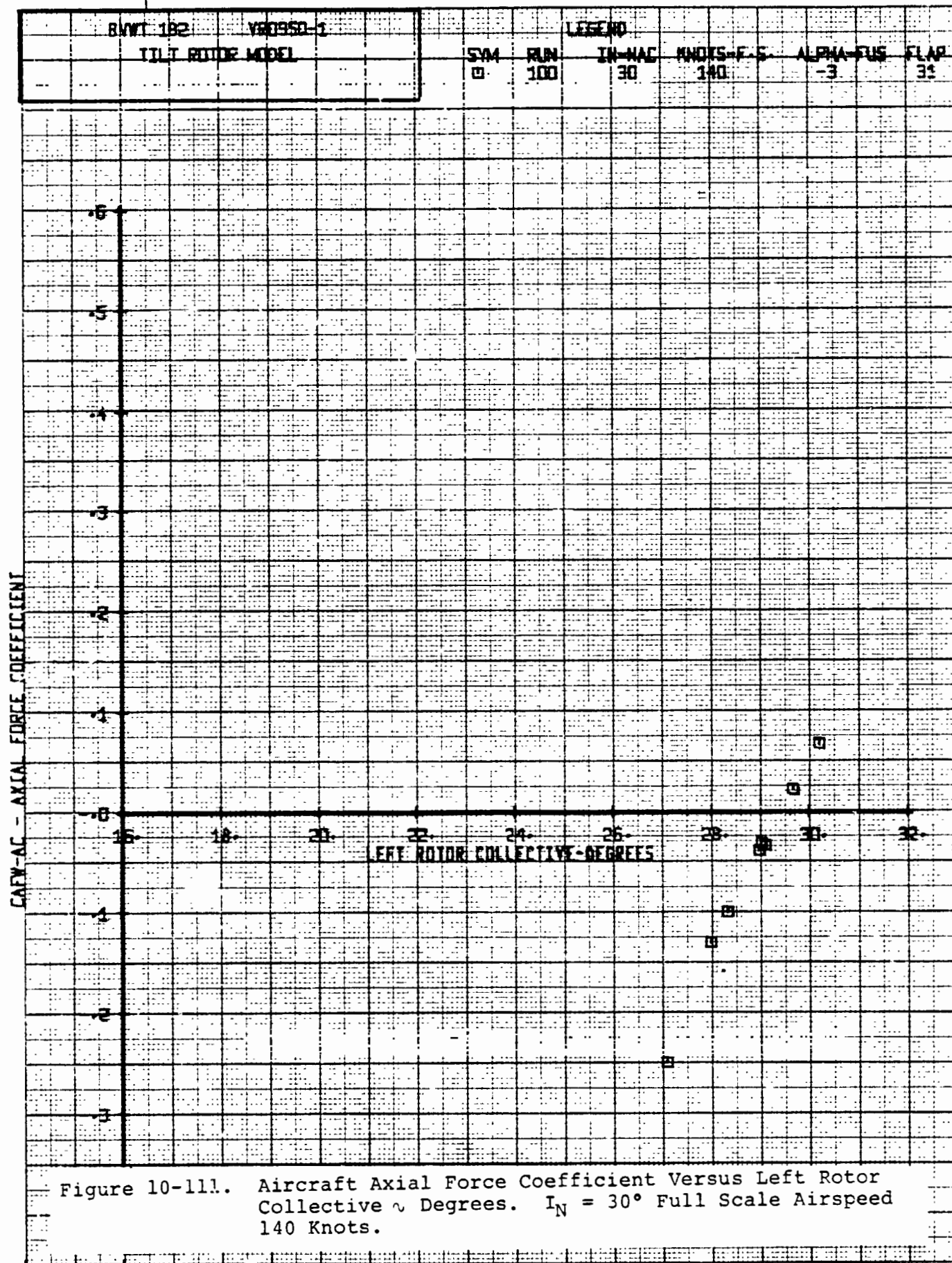


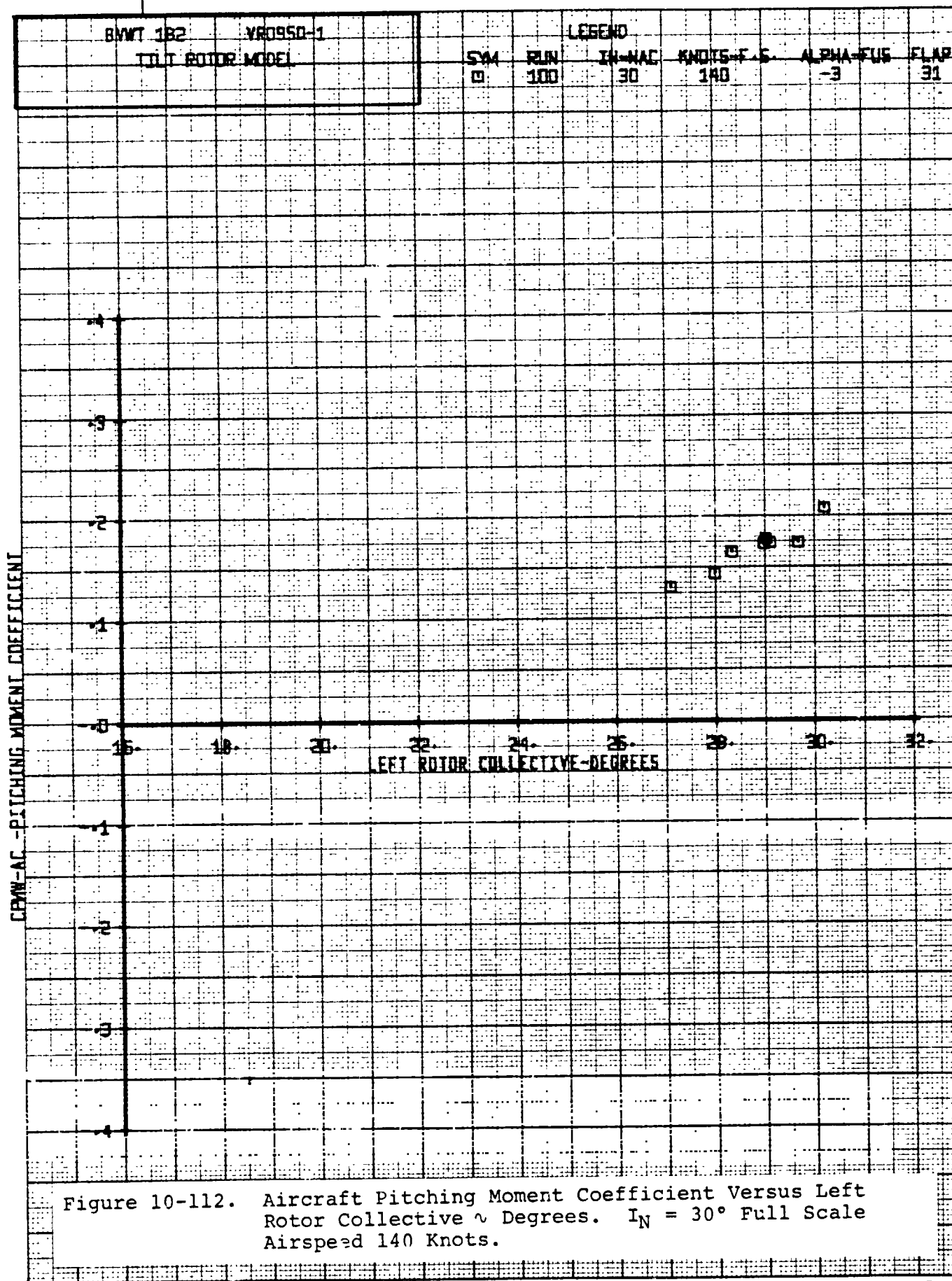
B/WT 182	VR0950-1	LEGEND				
SYN		RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP
□		100	30	140	-3	31

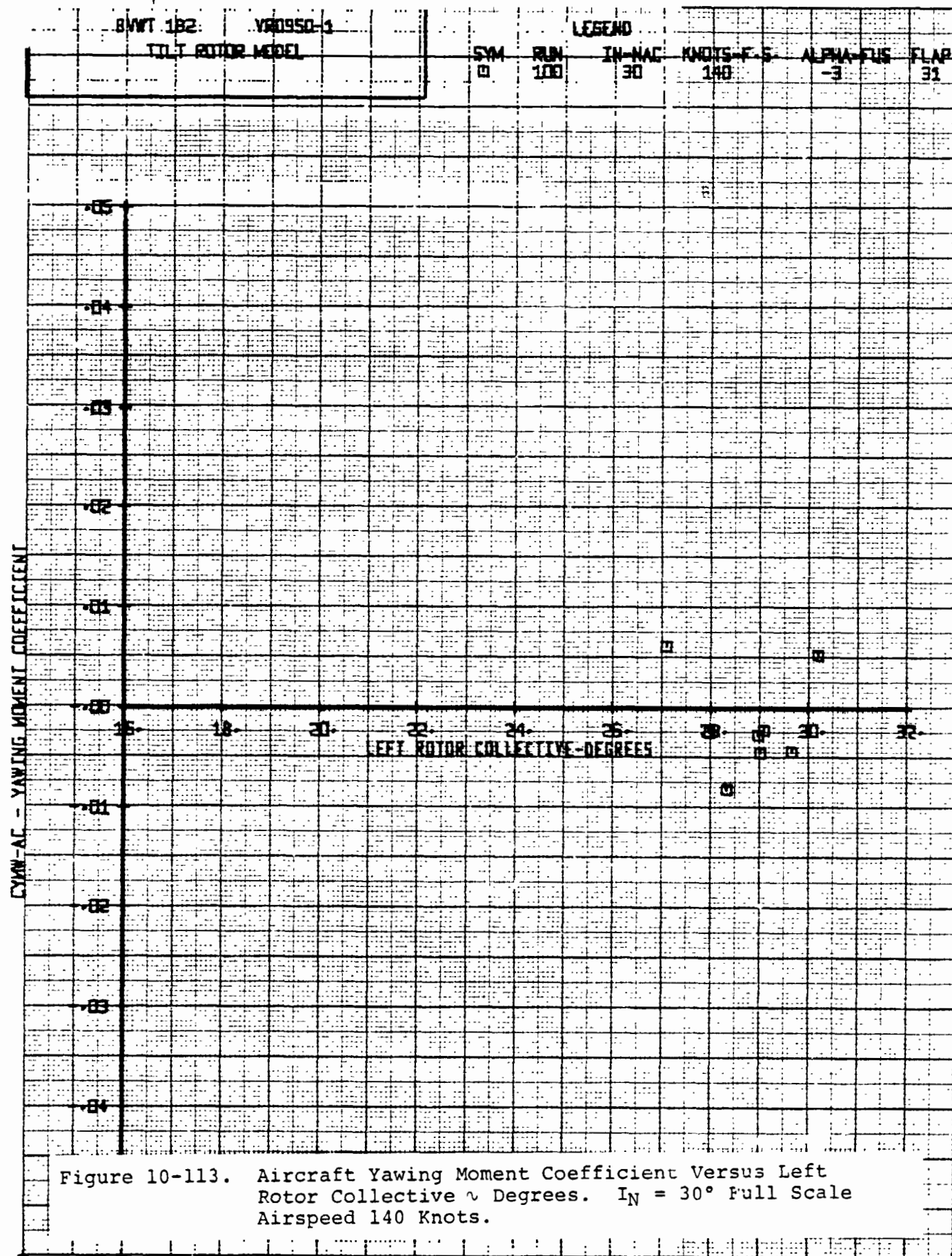
Figure 10-109. Aircraft Lift Coefficient Versus Left Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

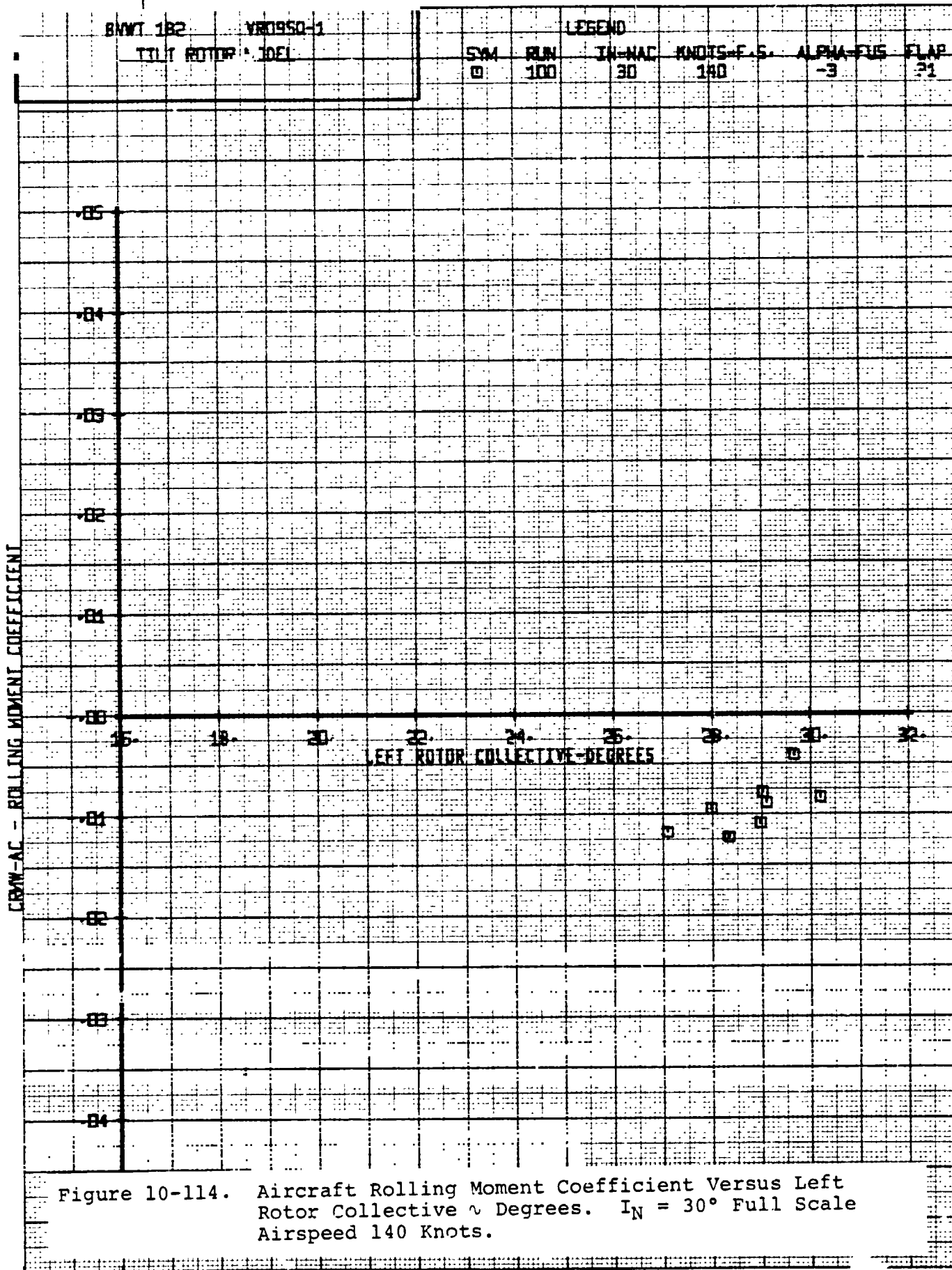


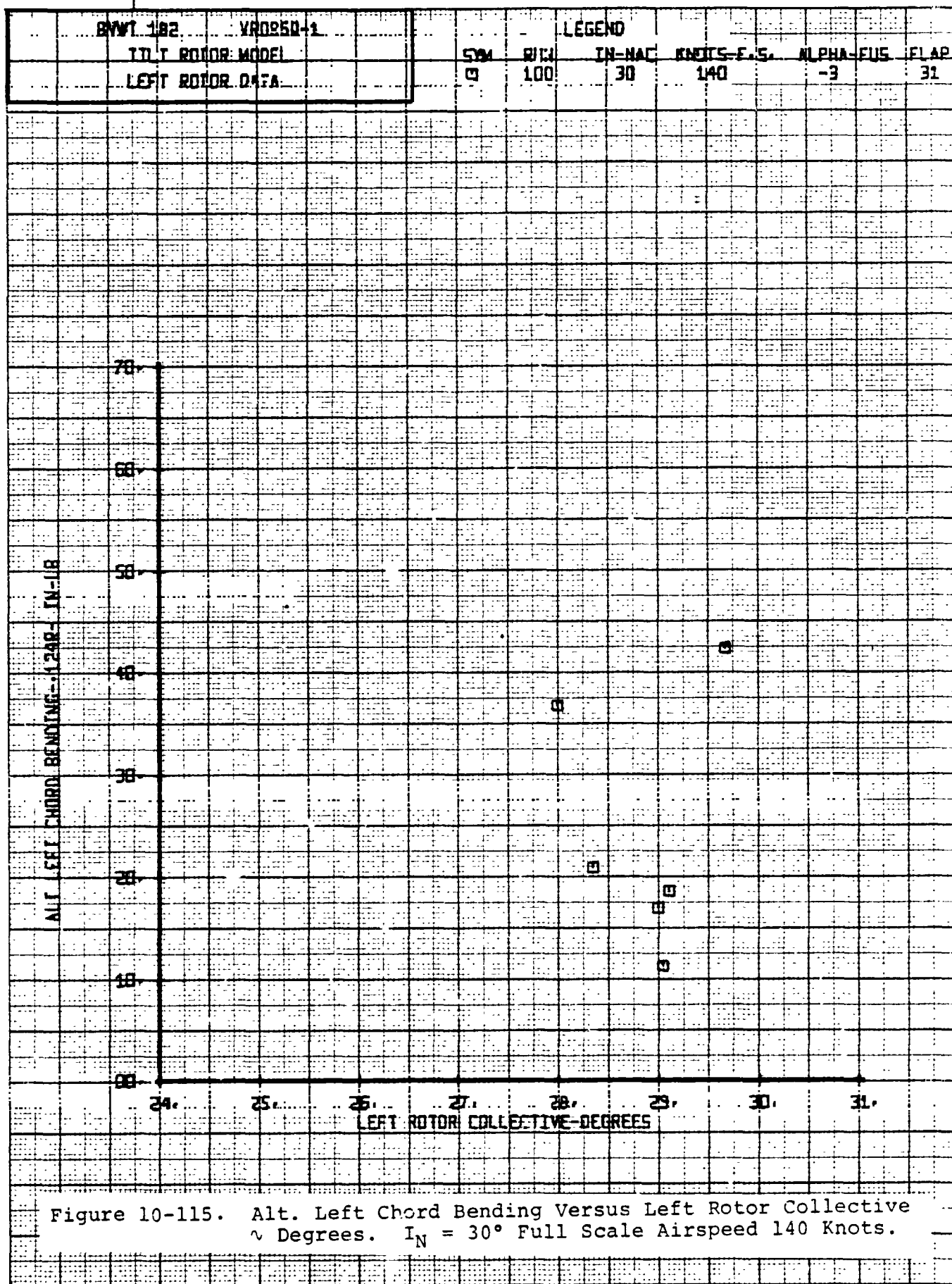






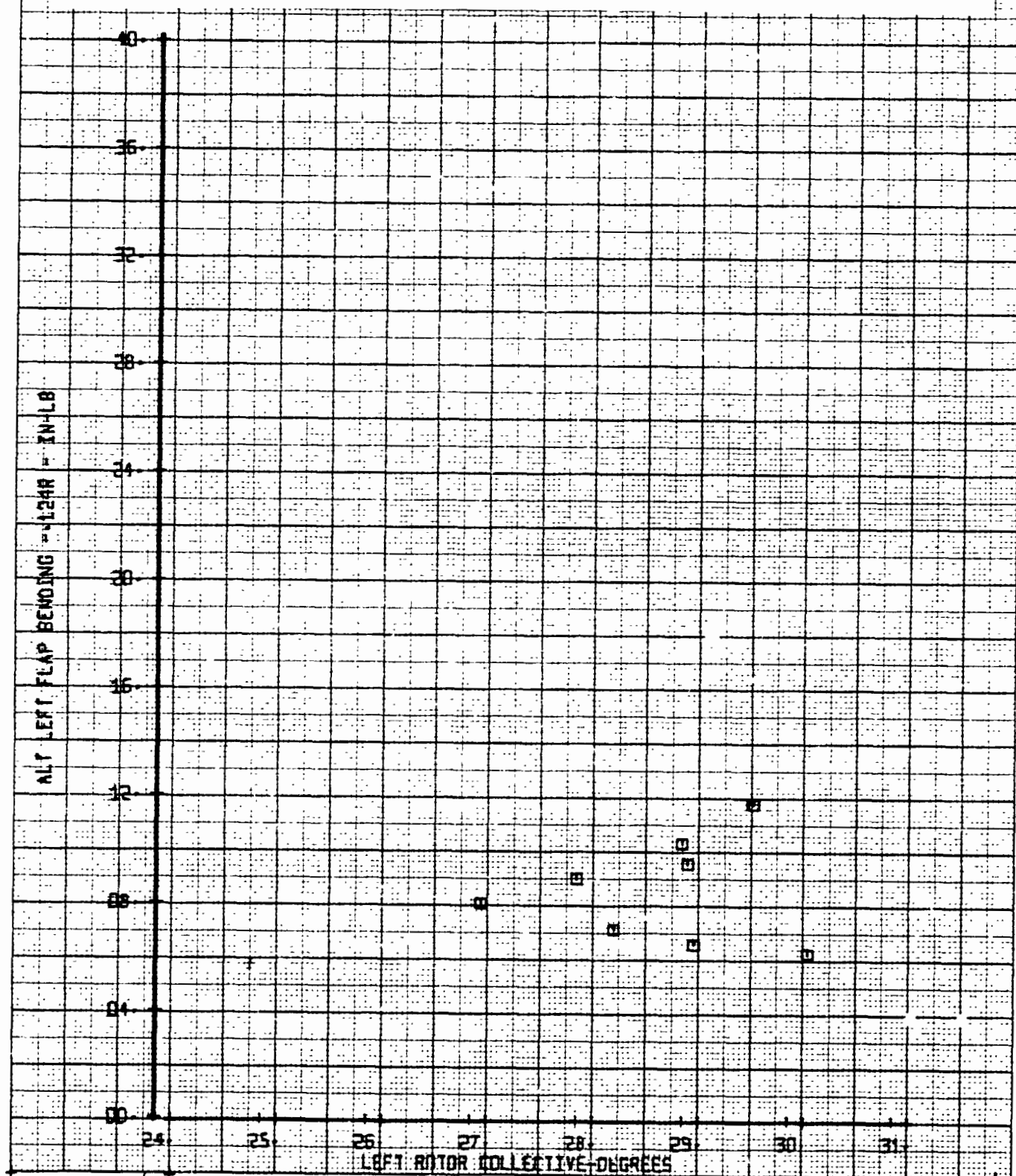


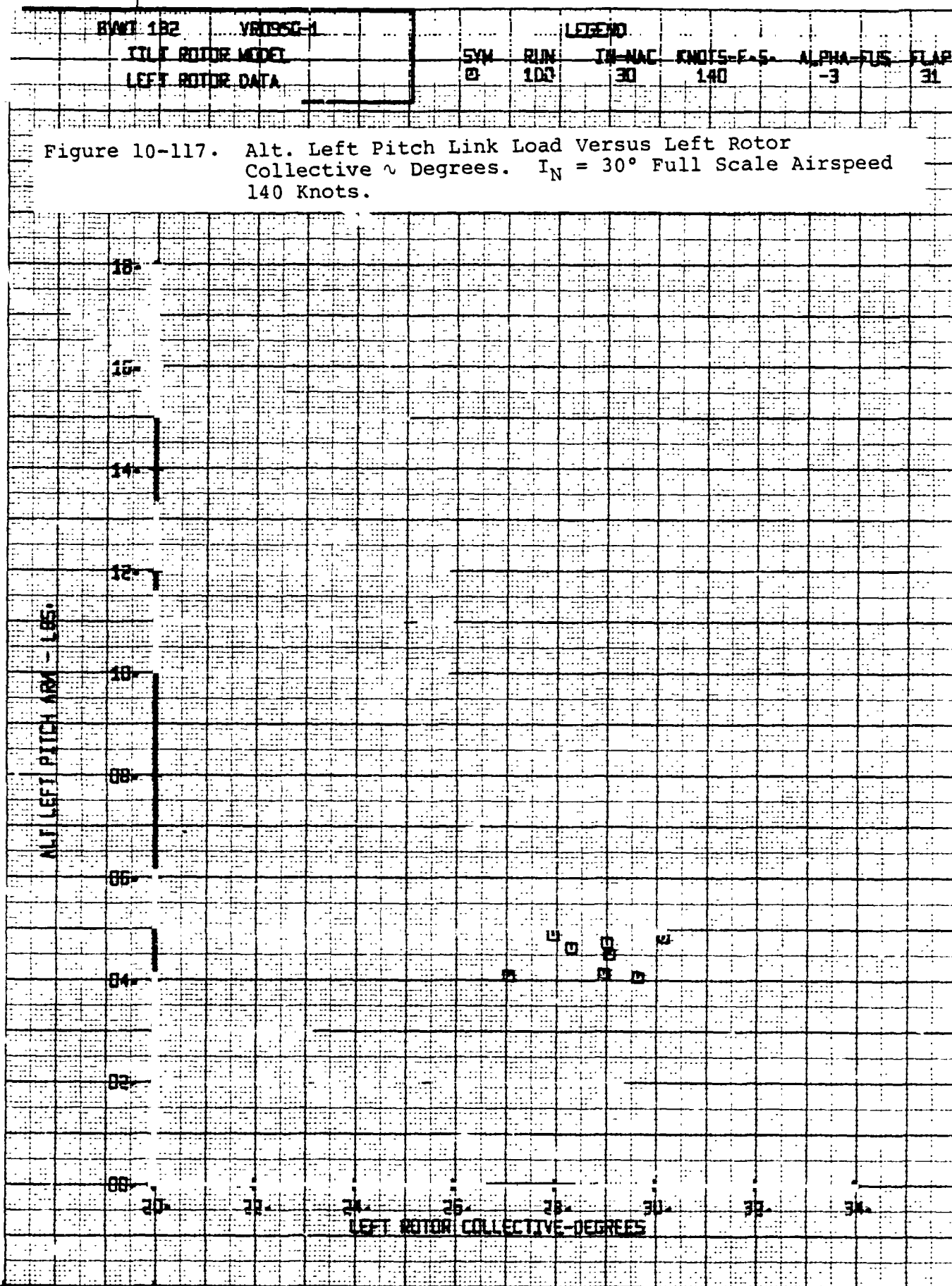


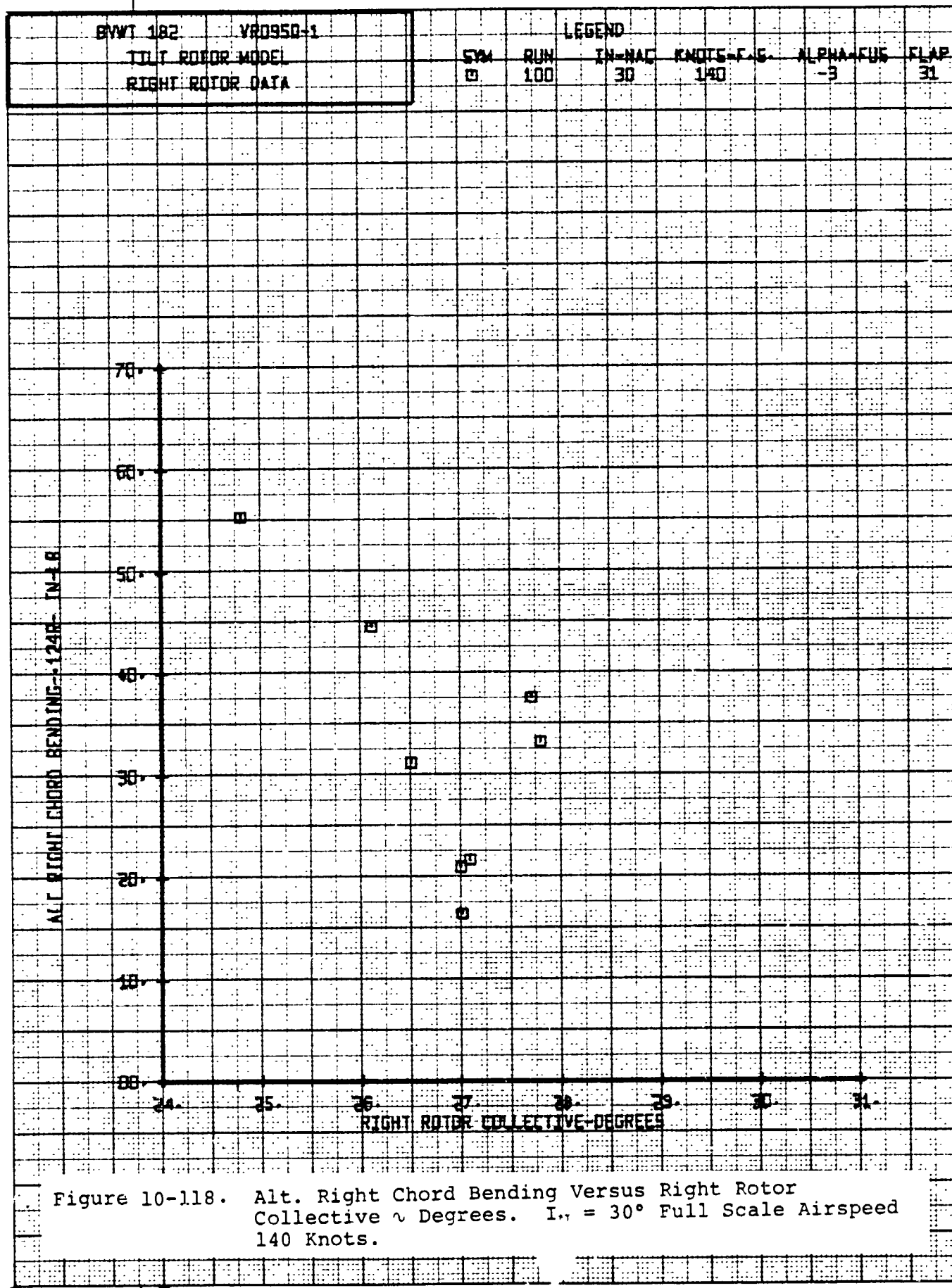


BYWT 182	YR0850-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAF	KNOTS-F.S.	ALPHA-F.I.S.
LEFT ROTOR DATA		0	100	30	140	-3
						31

Figure 10-116. Alt. Left Flap Bending Versus Left Rotor Collective
~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

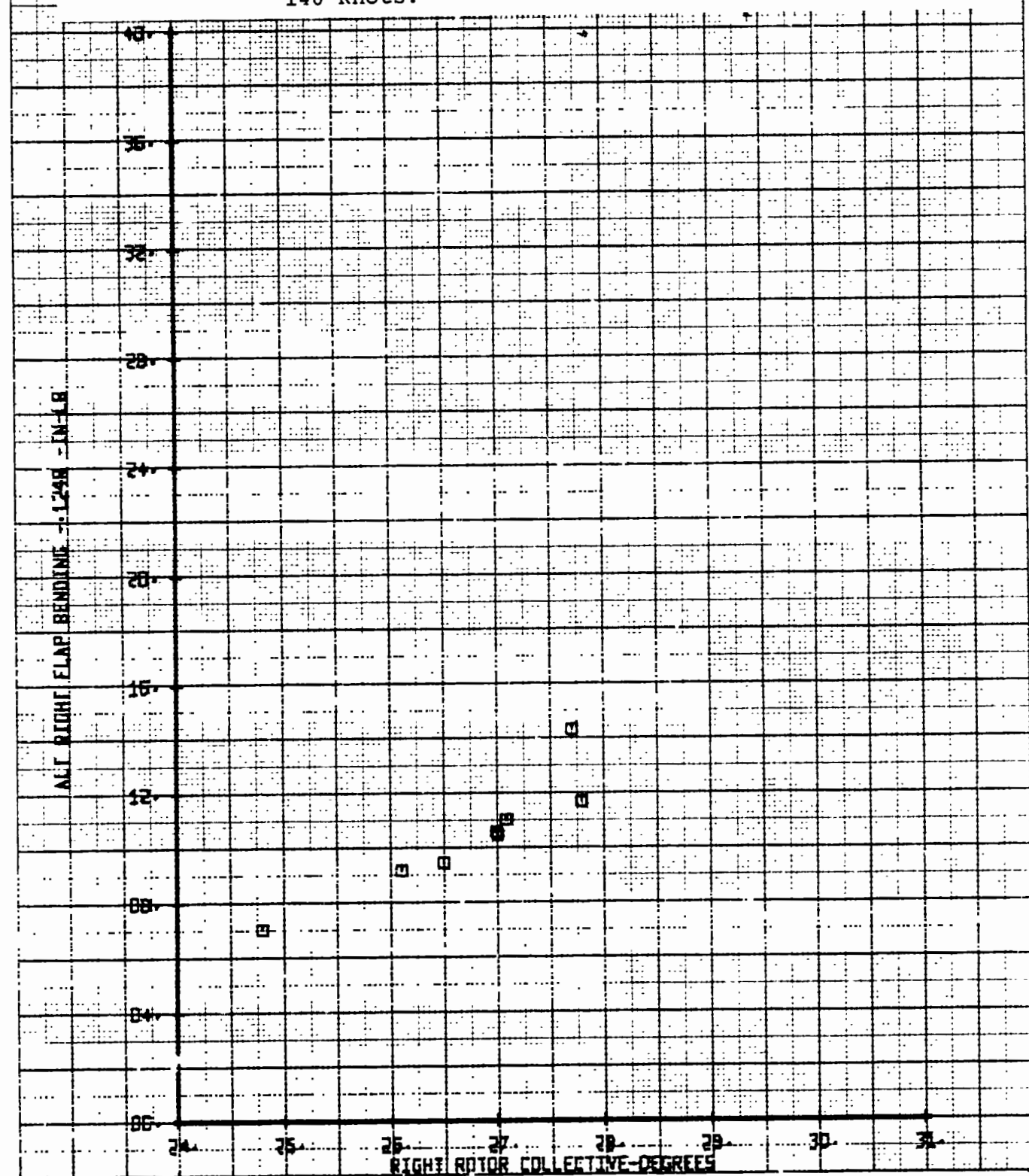






BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.E.	ALPHA-FUE
RIGHT ROTOR DATA		□	100	30	140	-3
						CLAP 31

Figure 10-119. Alt. Right Flap Bending Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



BVWT 182 YR0950-1

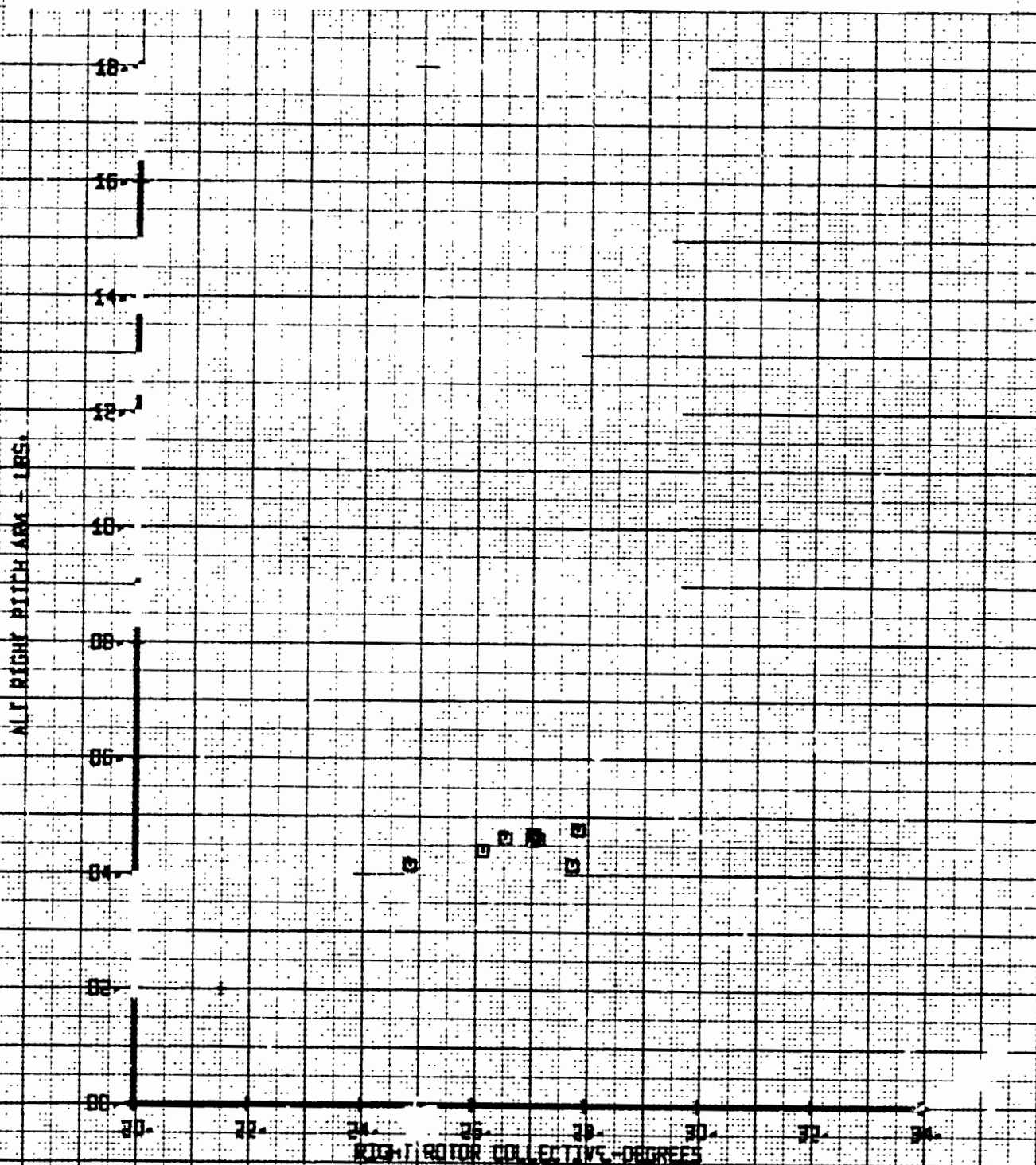
TILT ROTOR MODEL

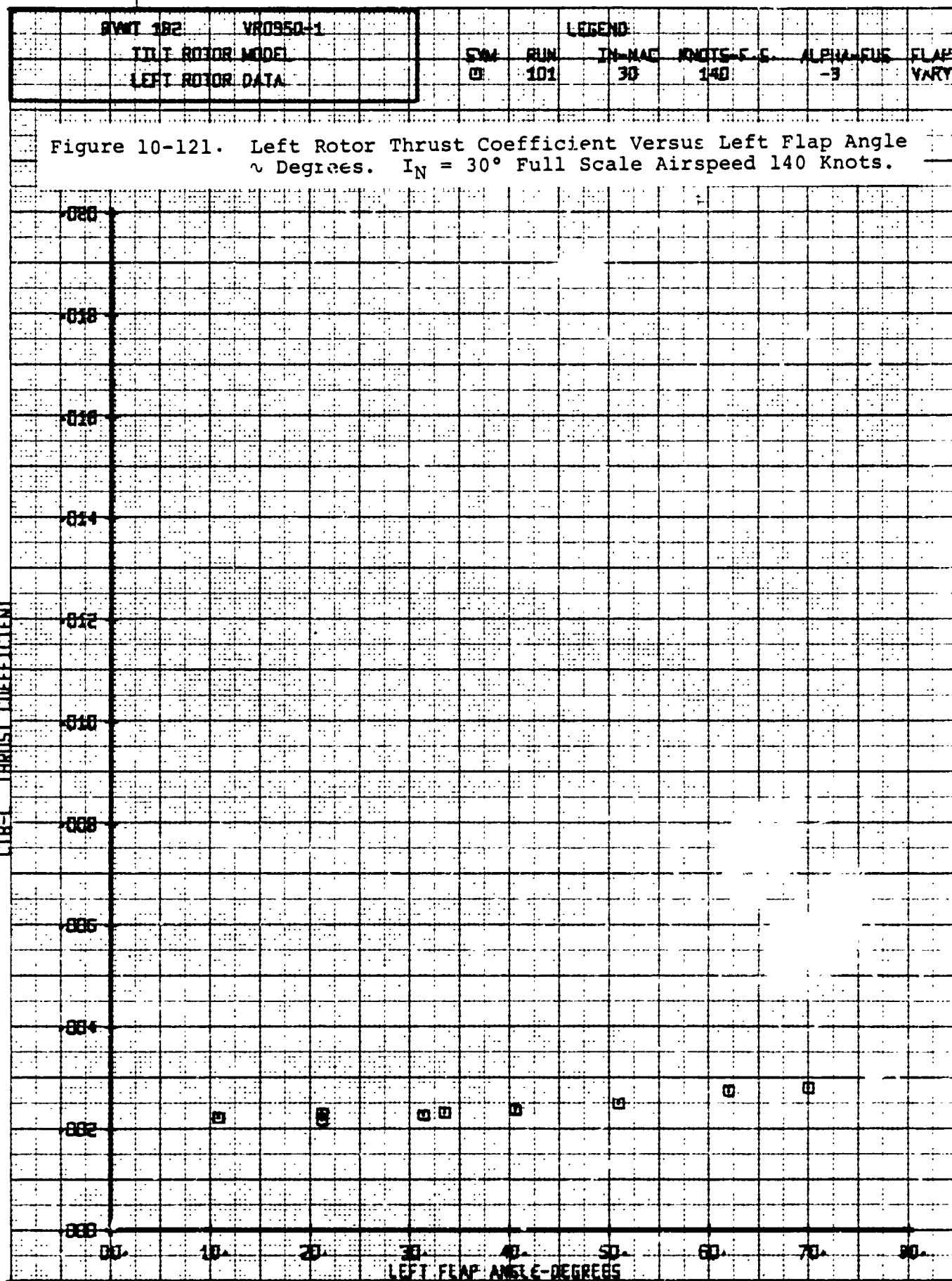
RIGHT ROTOR DATA

LEGEND

SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
0	100	30	140	-3	31

Figure 10-120. Alt. Right Pitch Link Load Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





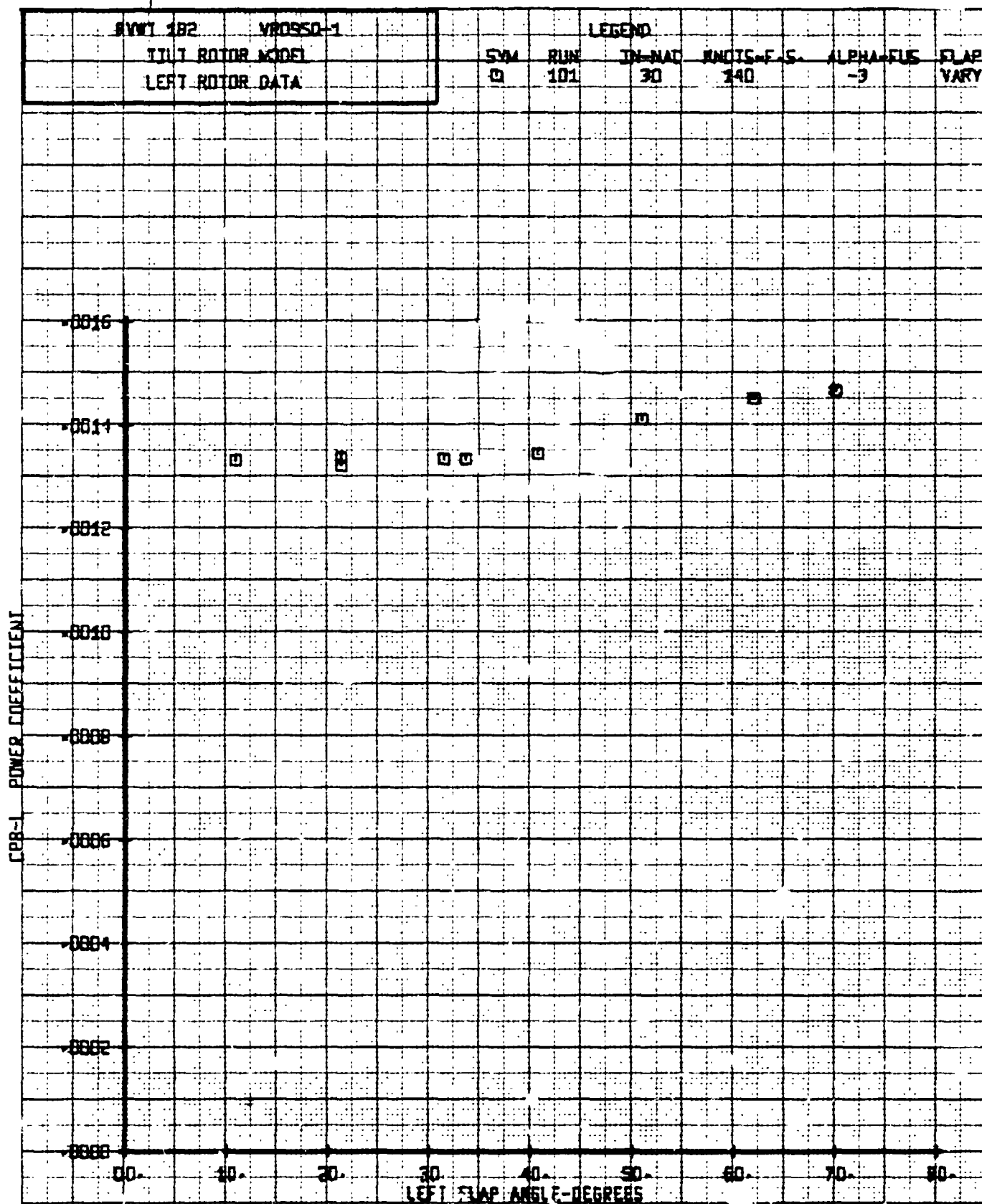
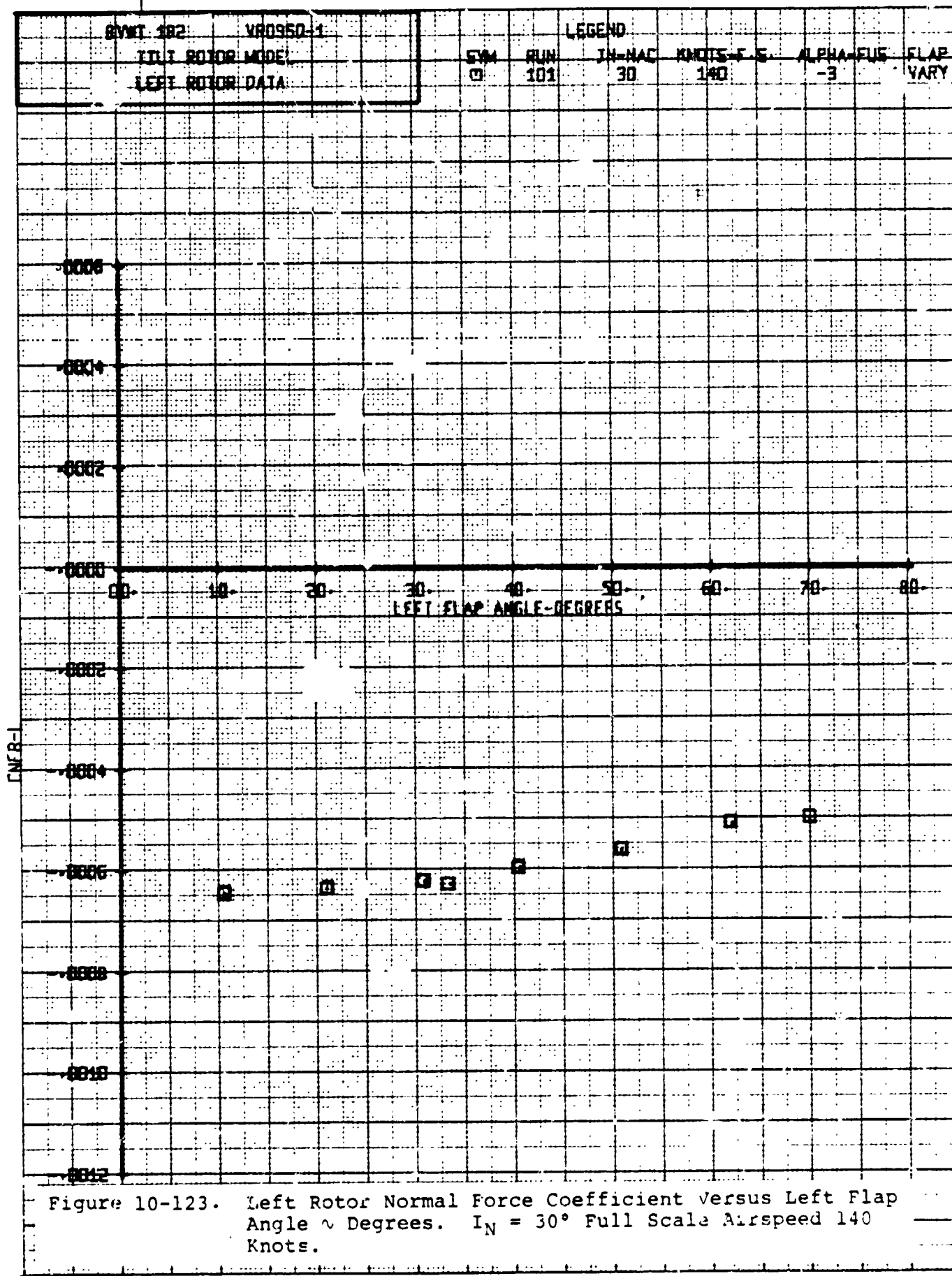
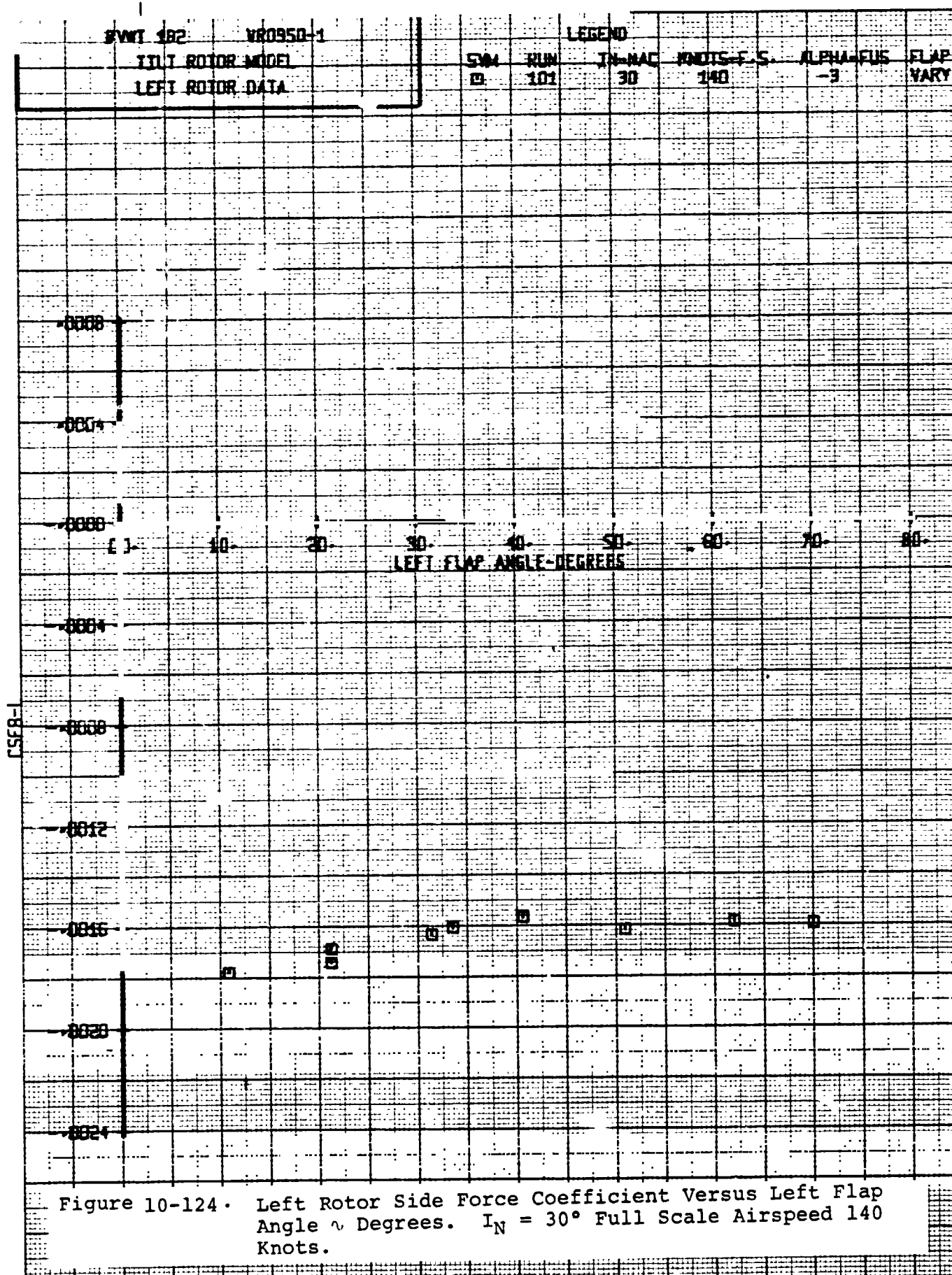


Figure 10-122. Left Rotor Power Coefficient Versus Left Angle Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





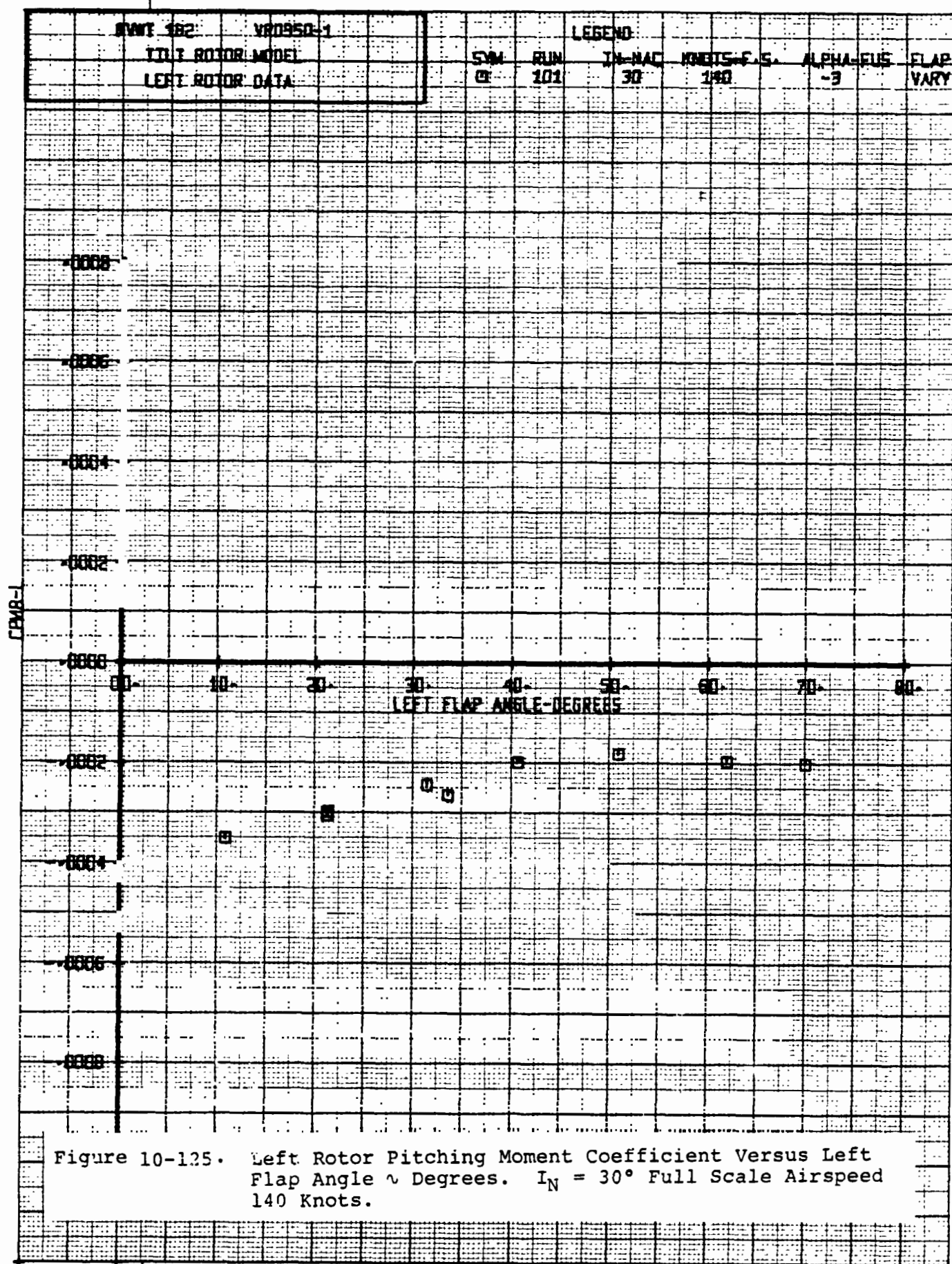
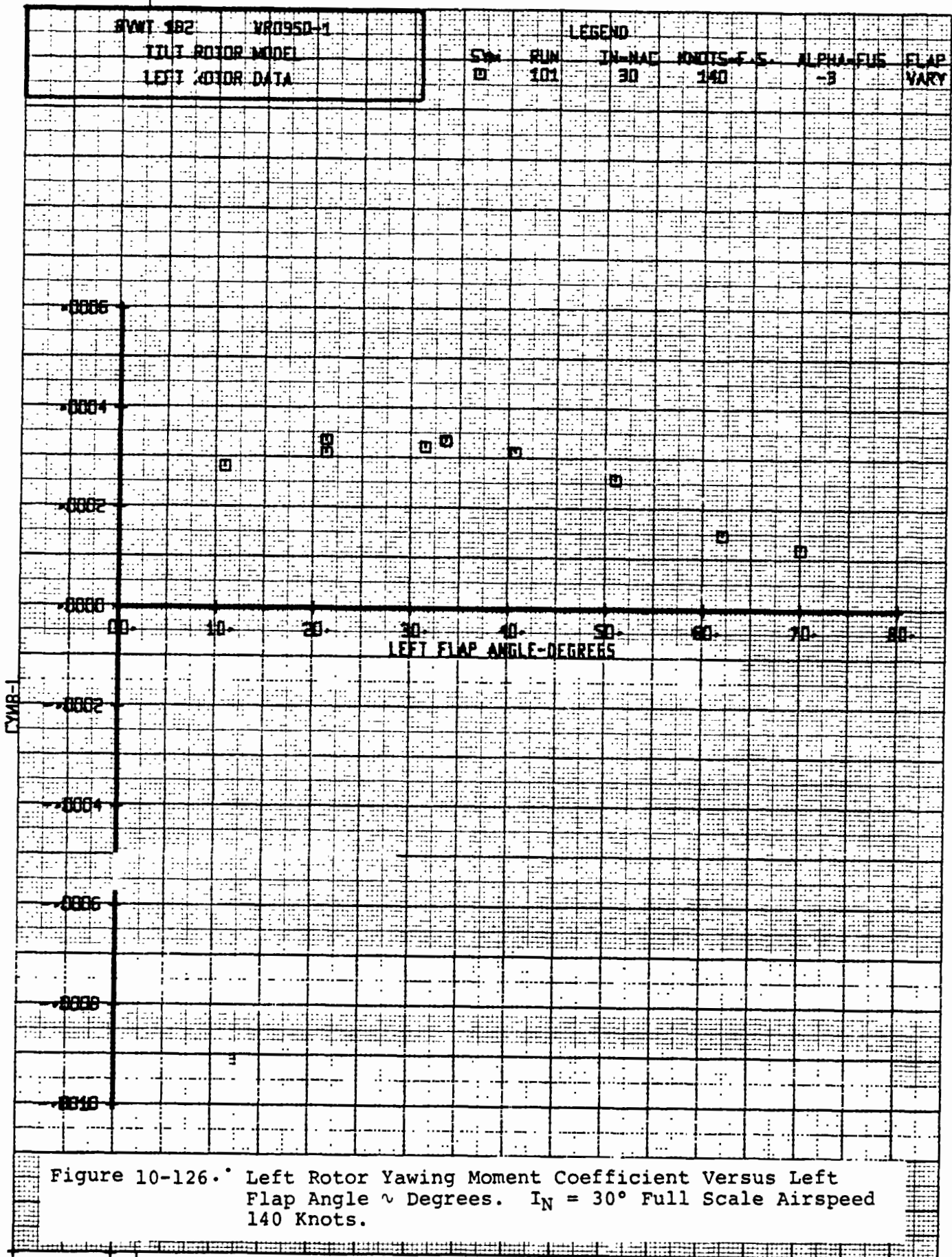
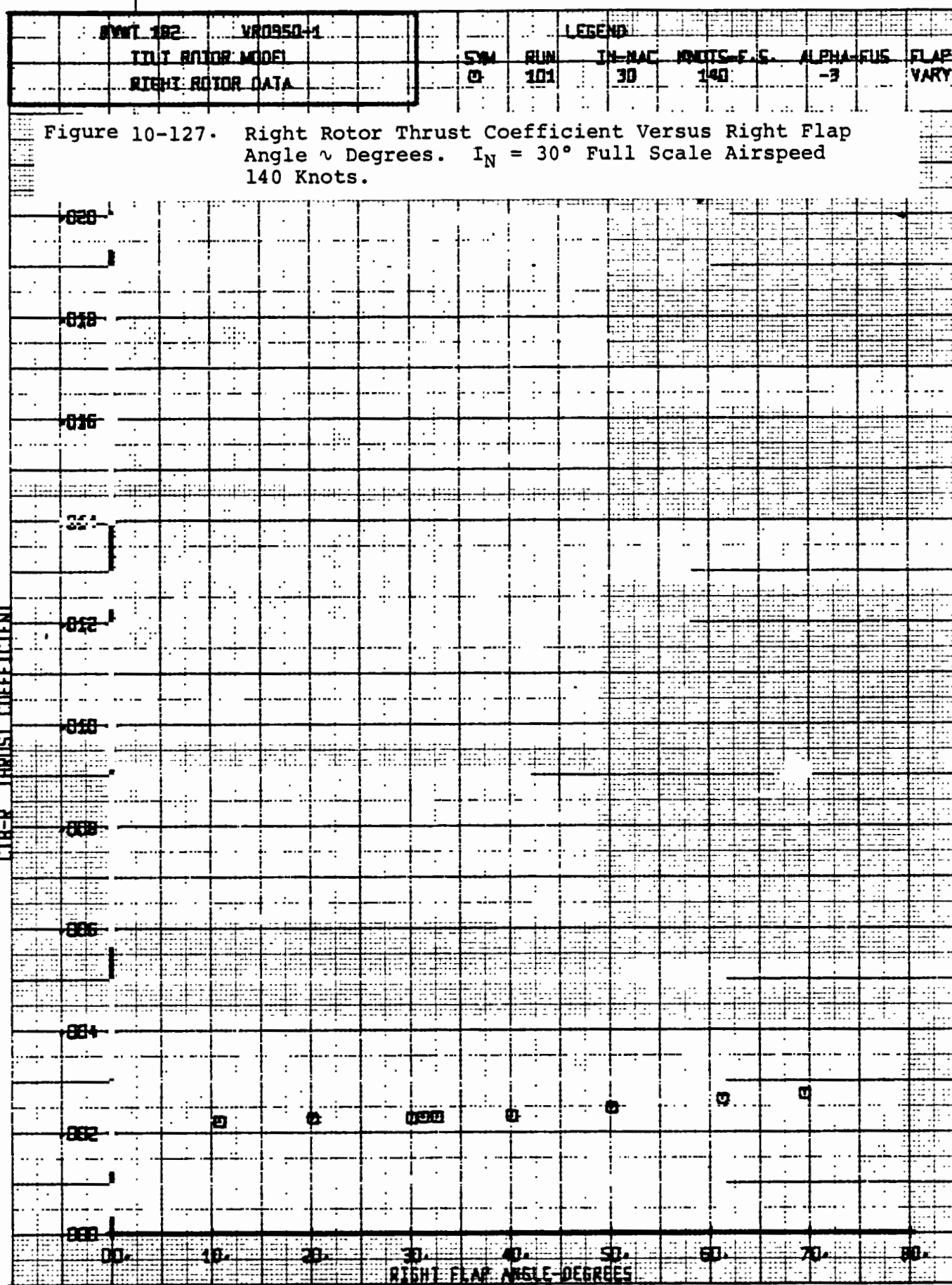


Figure 10-125. Left Rotor Pitching Moment Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





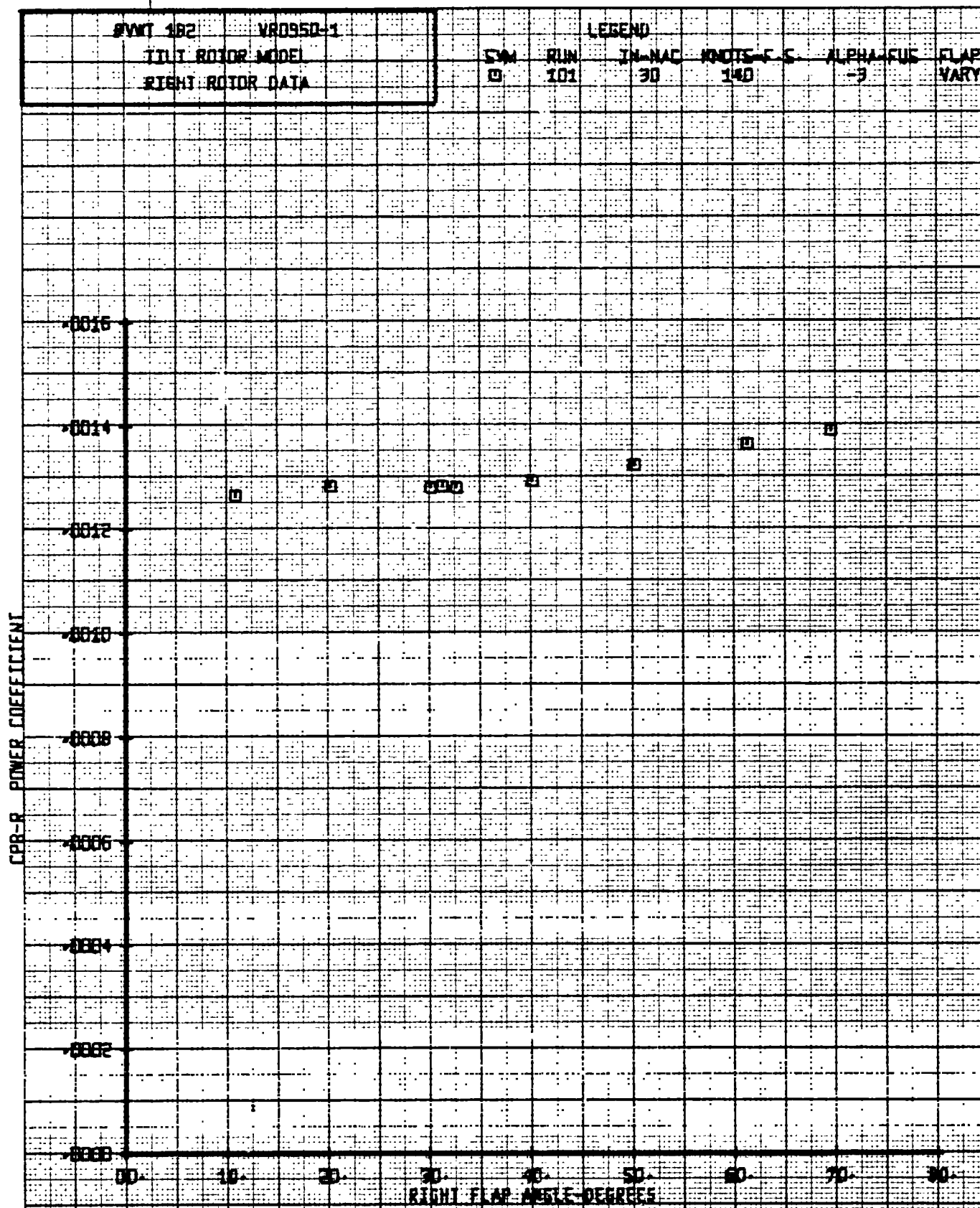
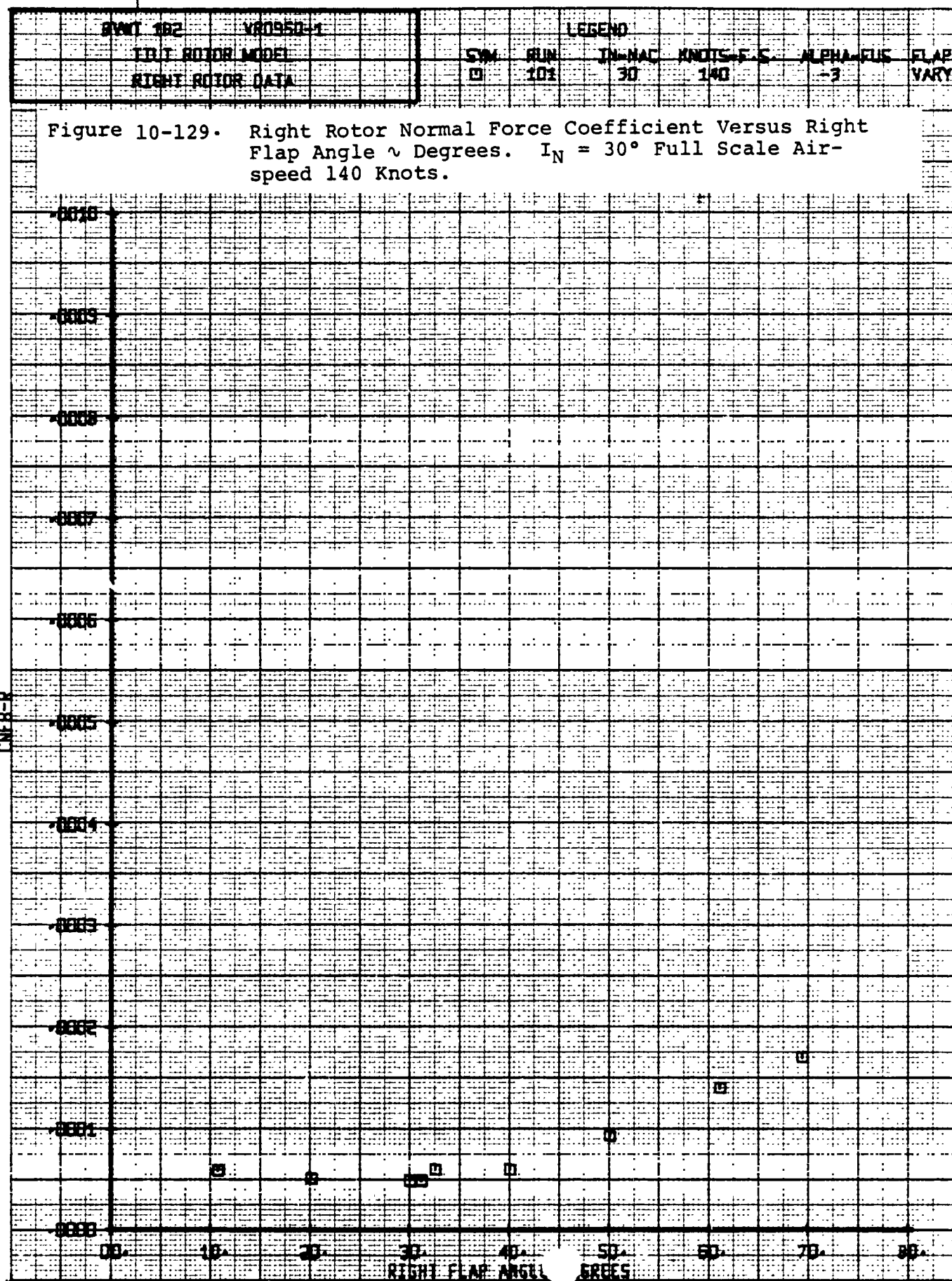
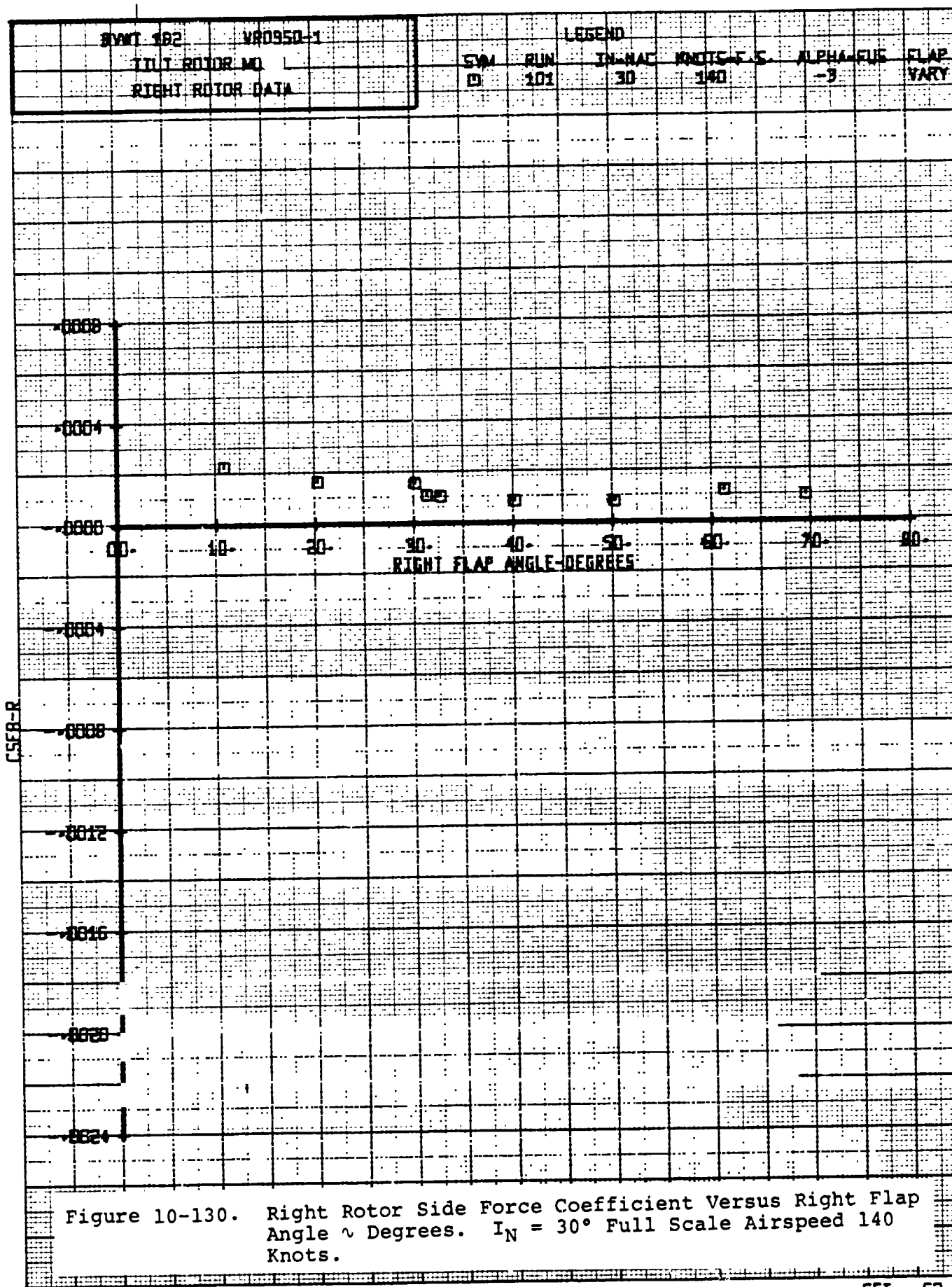
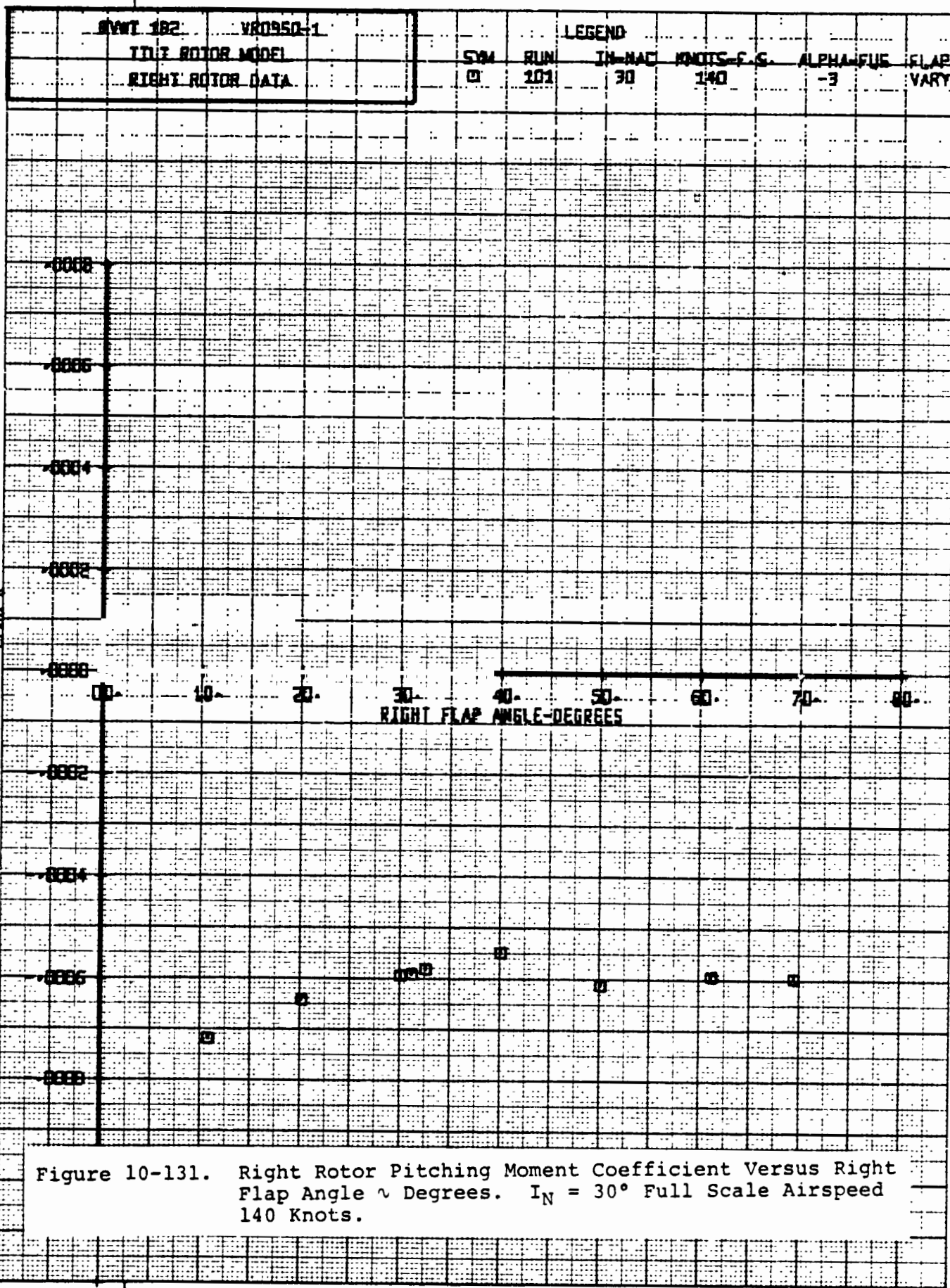


Figure 10-128. Right Rotor Power Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.







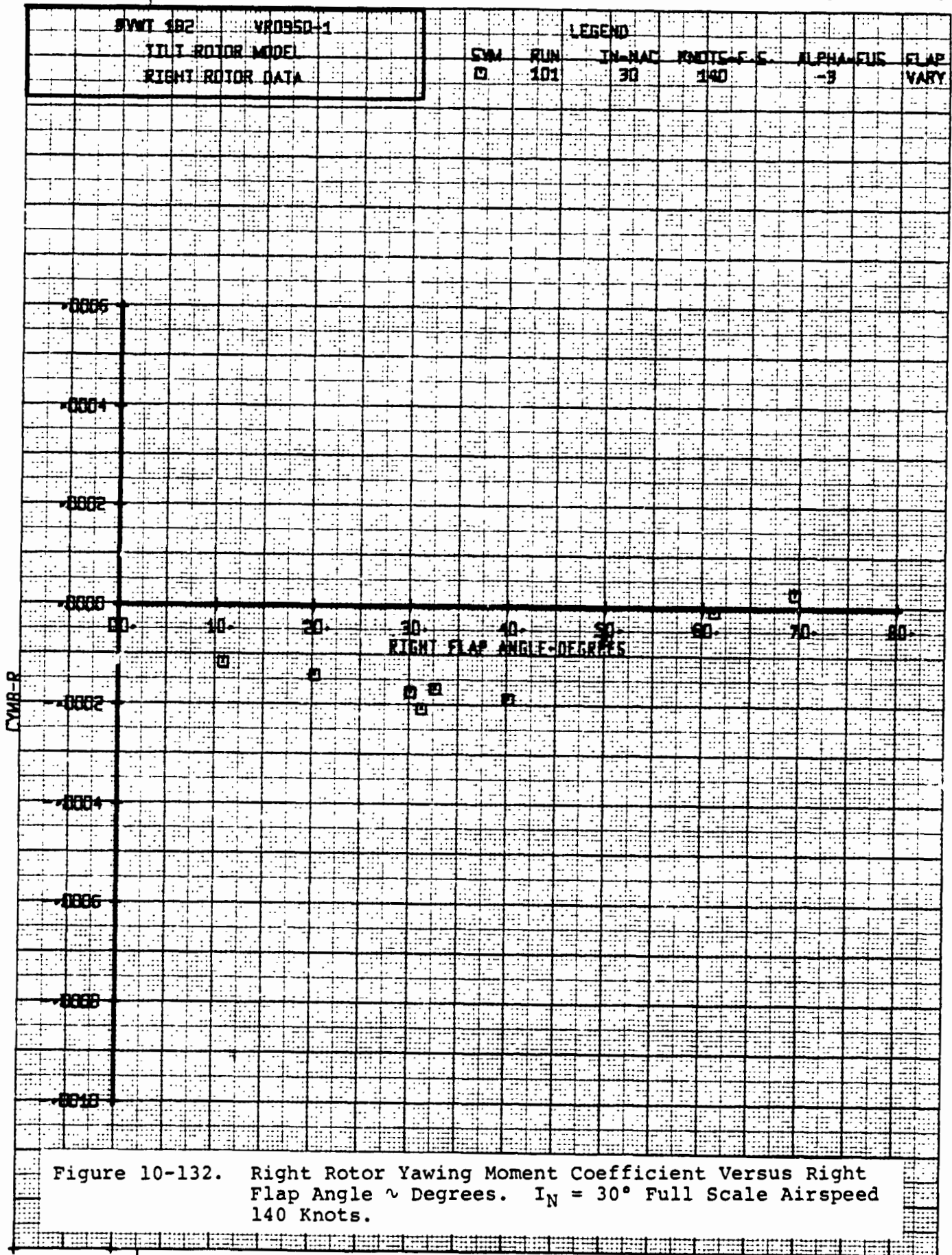
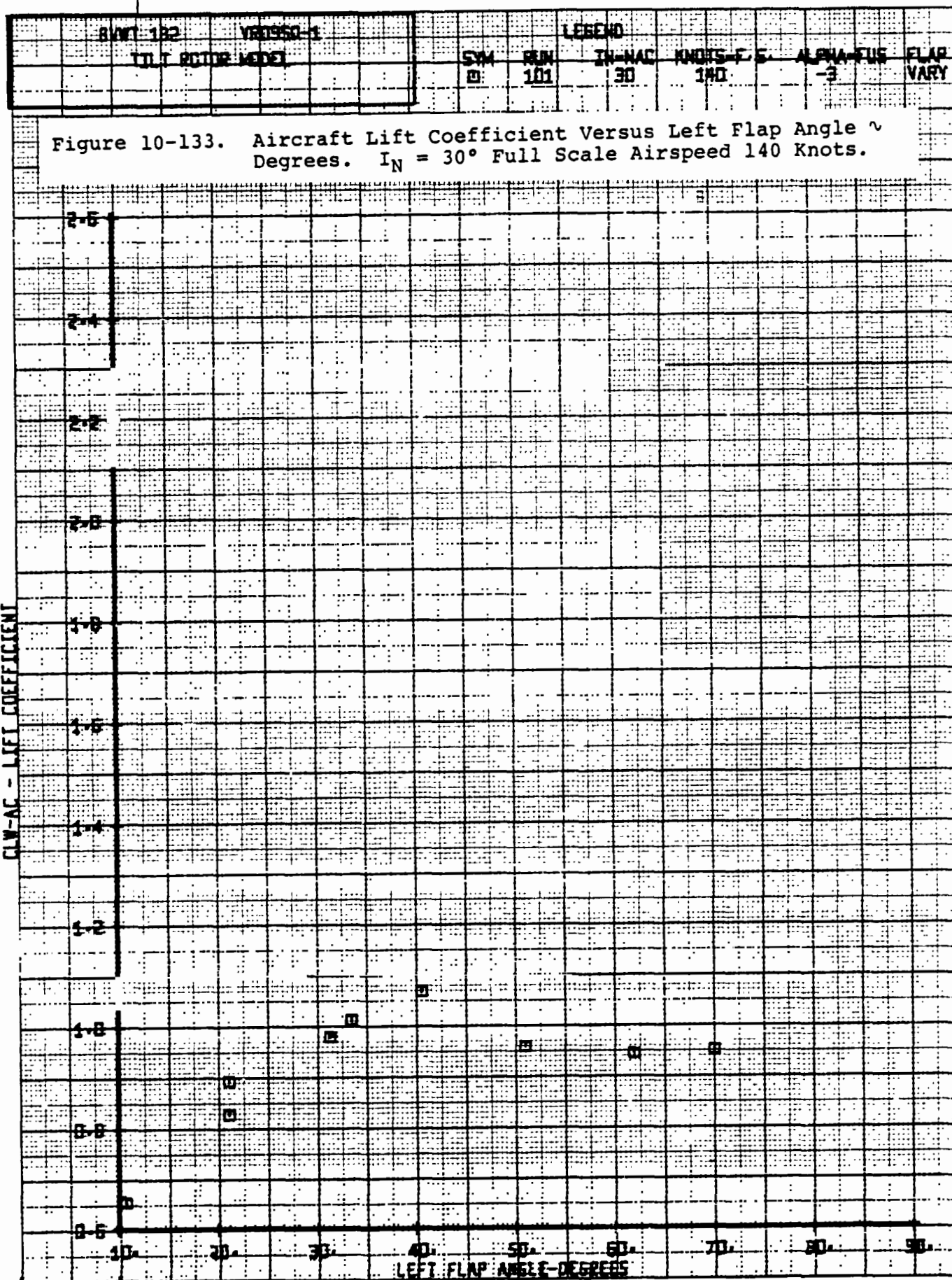
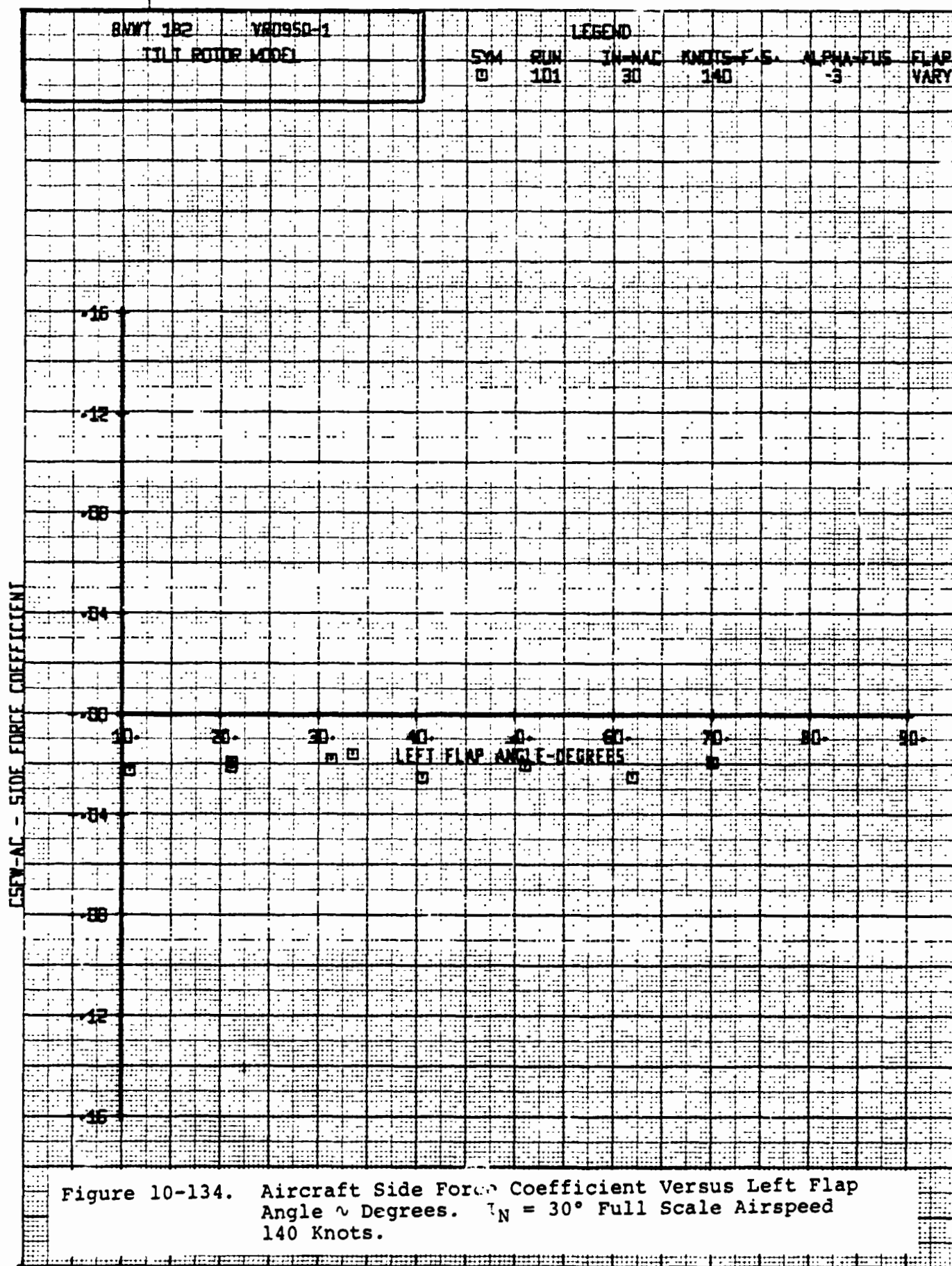
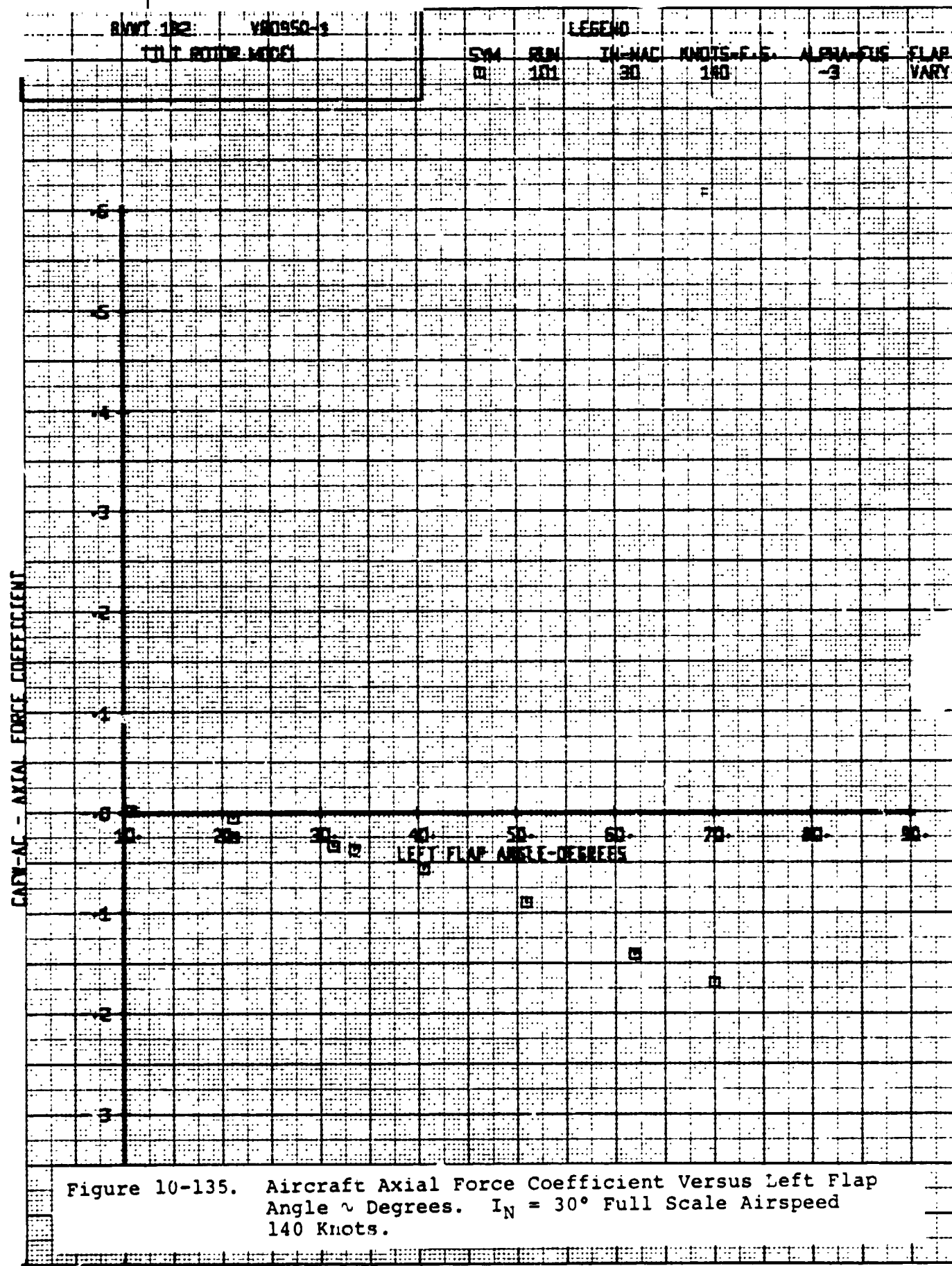
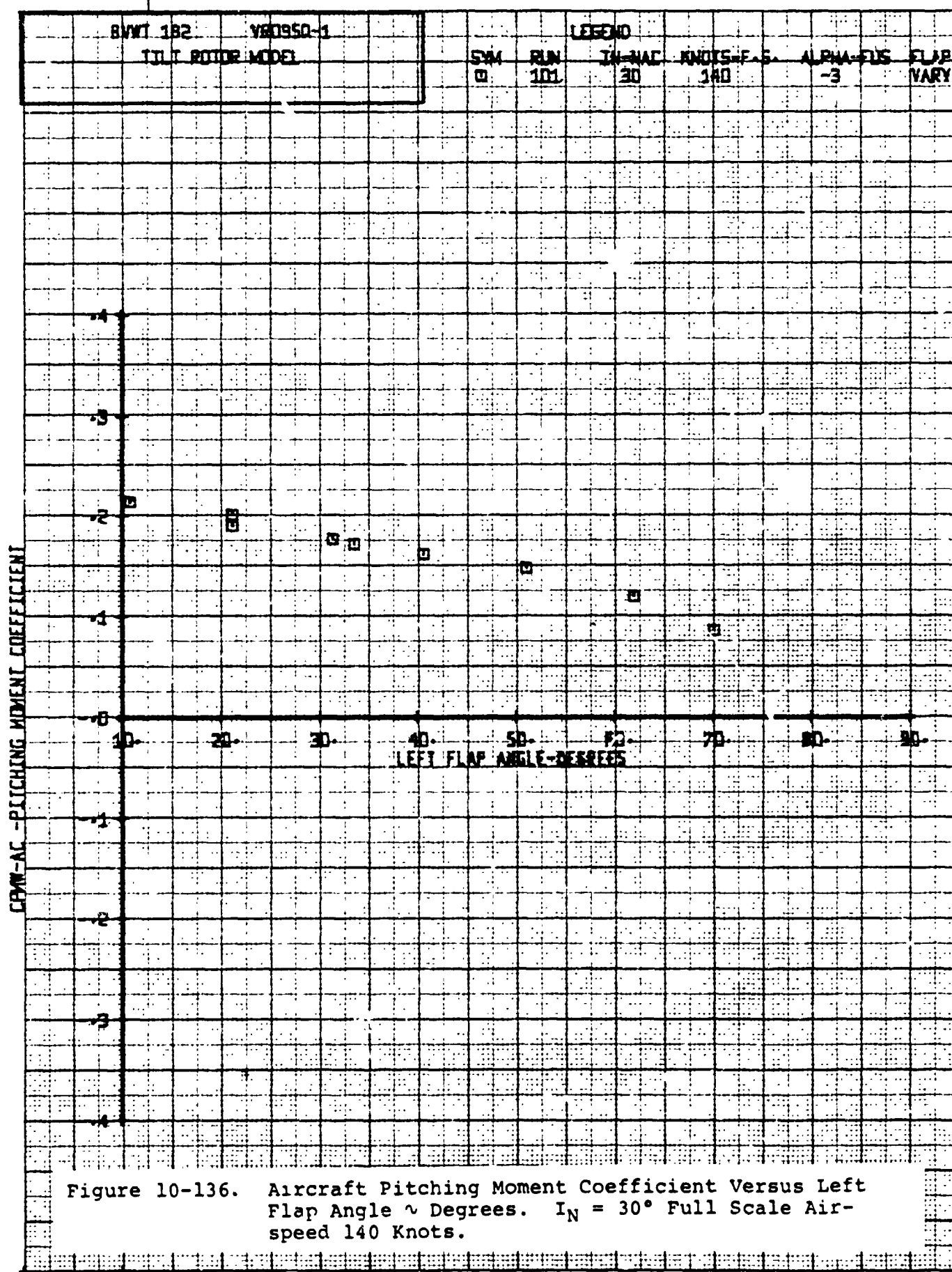


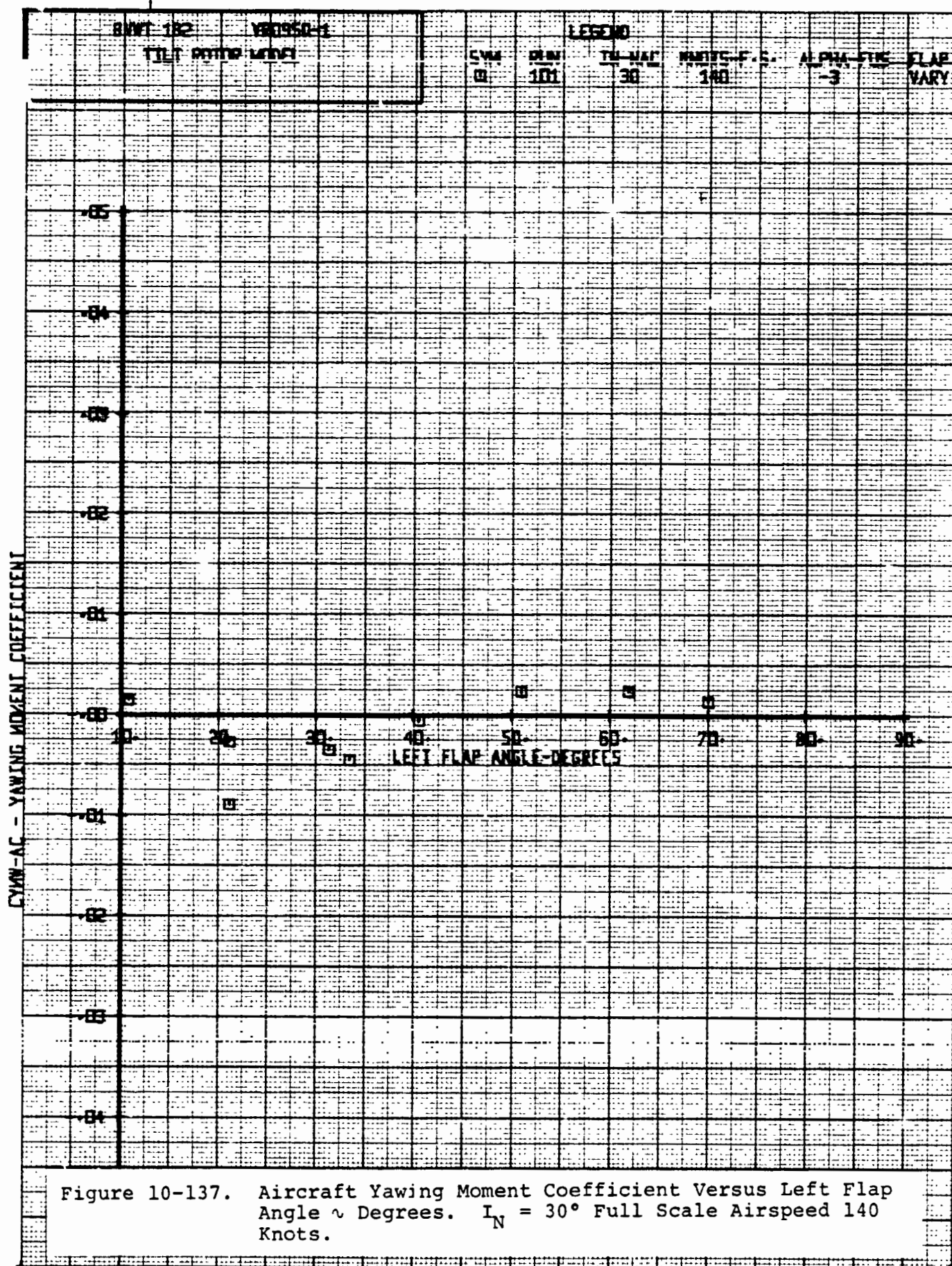
Figure 10-132. Right Rotor Yawing Moment Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

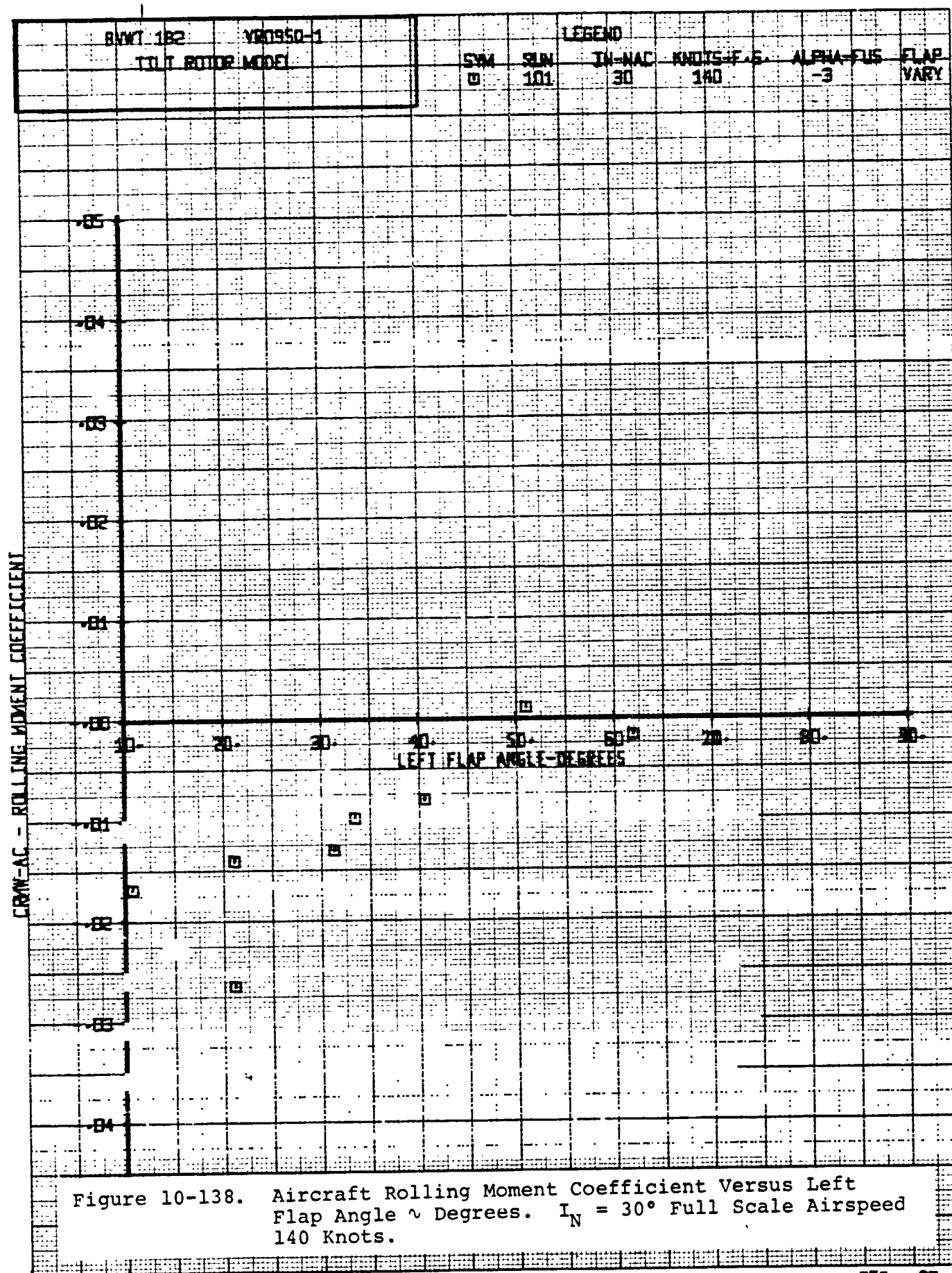


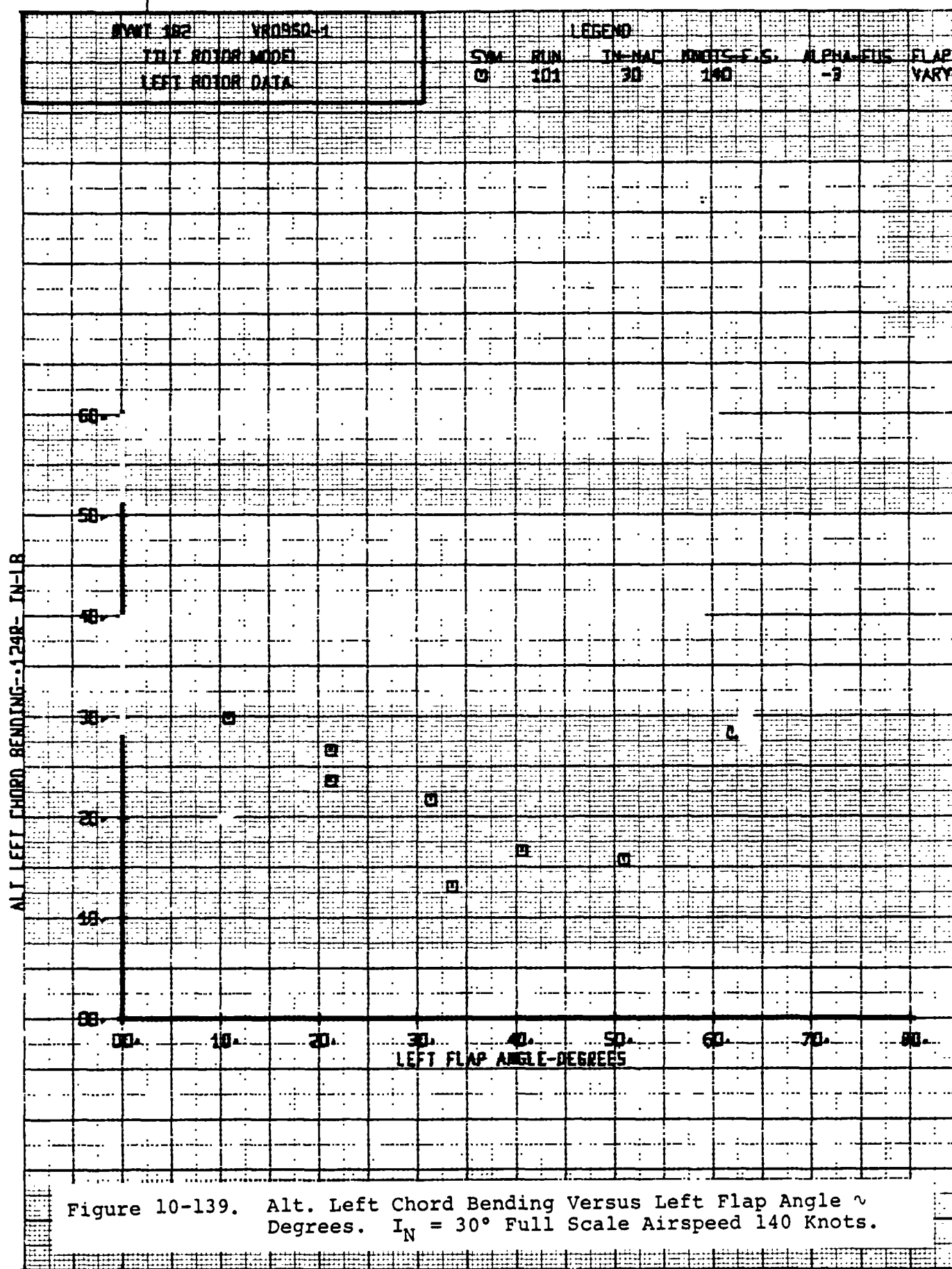


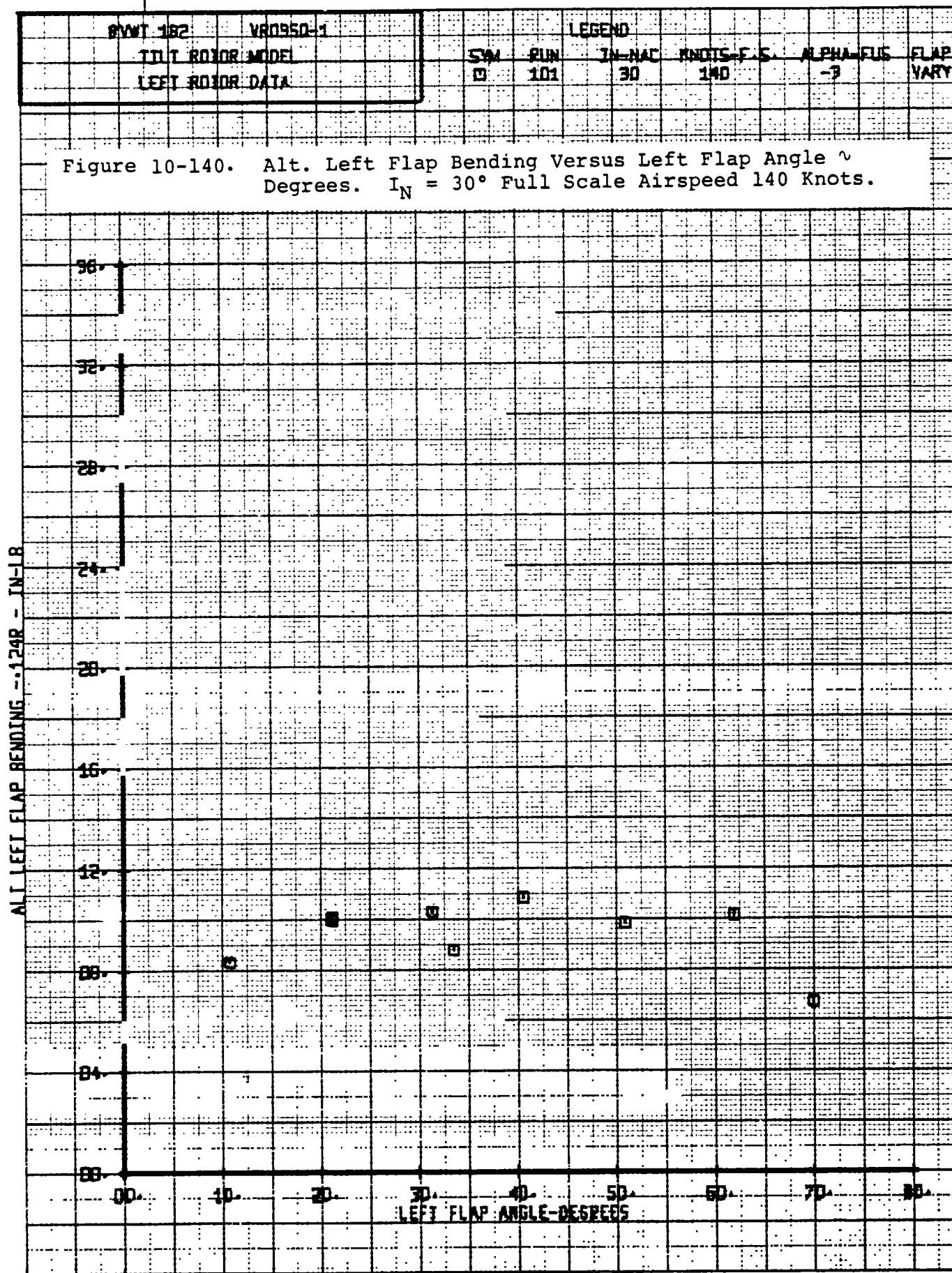


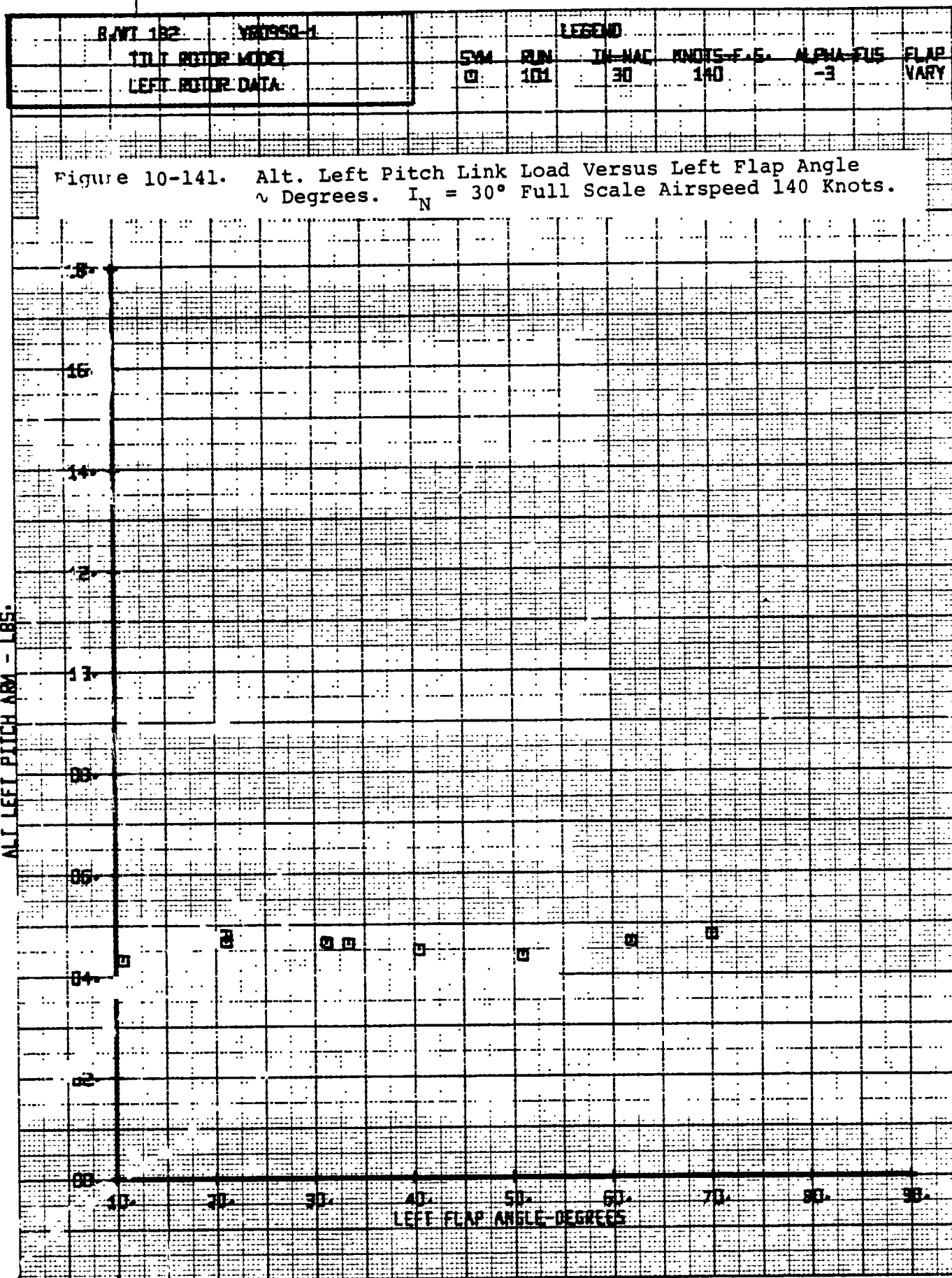












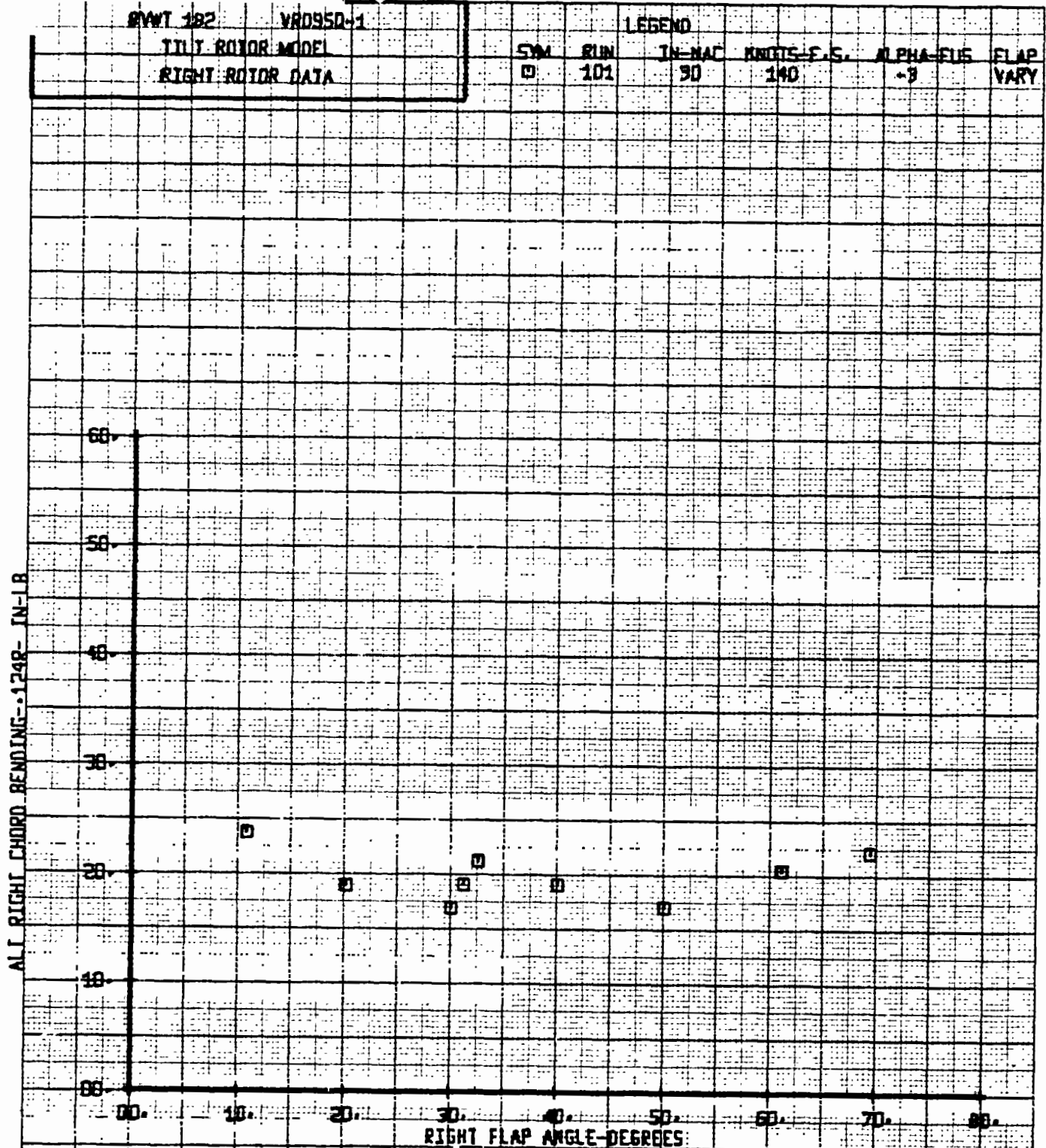
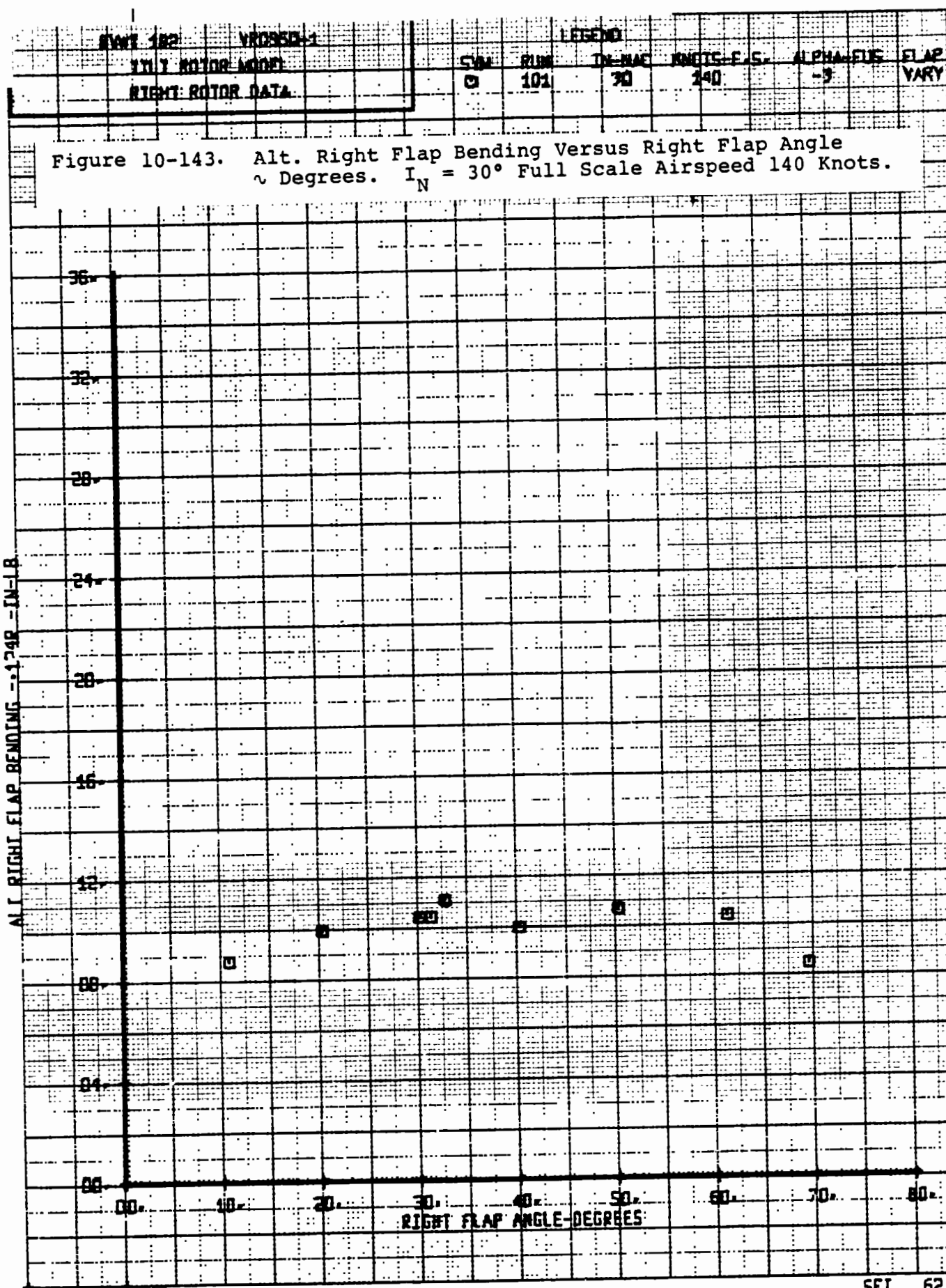


Figure 10-142. Alt. Right Chord Bending Versus Right Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



BVWT 182 V80950-1

TILT ROTOR MODEL

RIGHT ROTOR DATA

LEGEND

SYM

RUN

IN-HAC

KNOTS-F.F.S.

ALPHA-FUS

FLAP

□

101

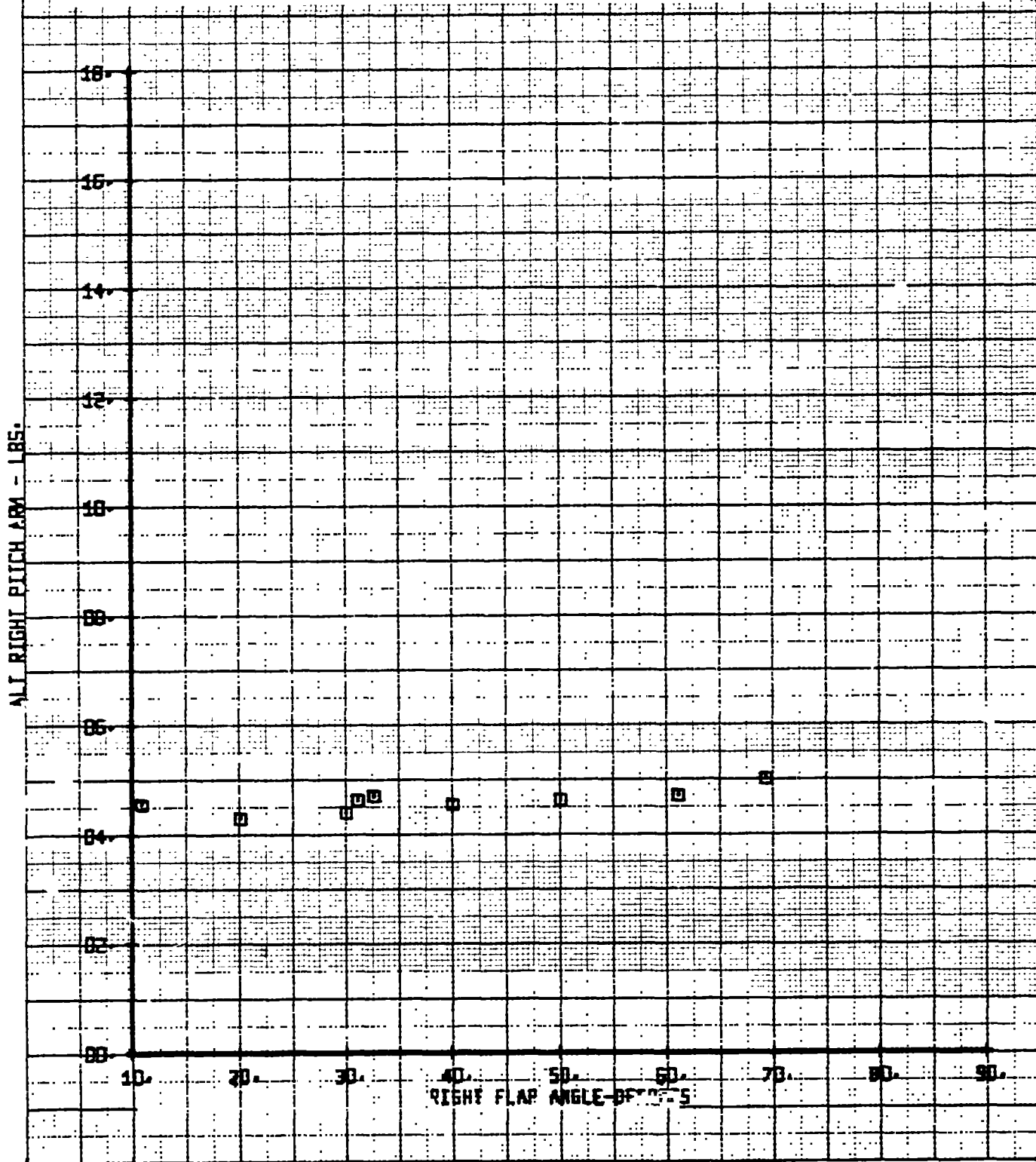
30

140

-3

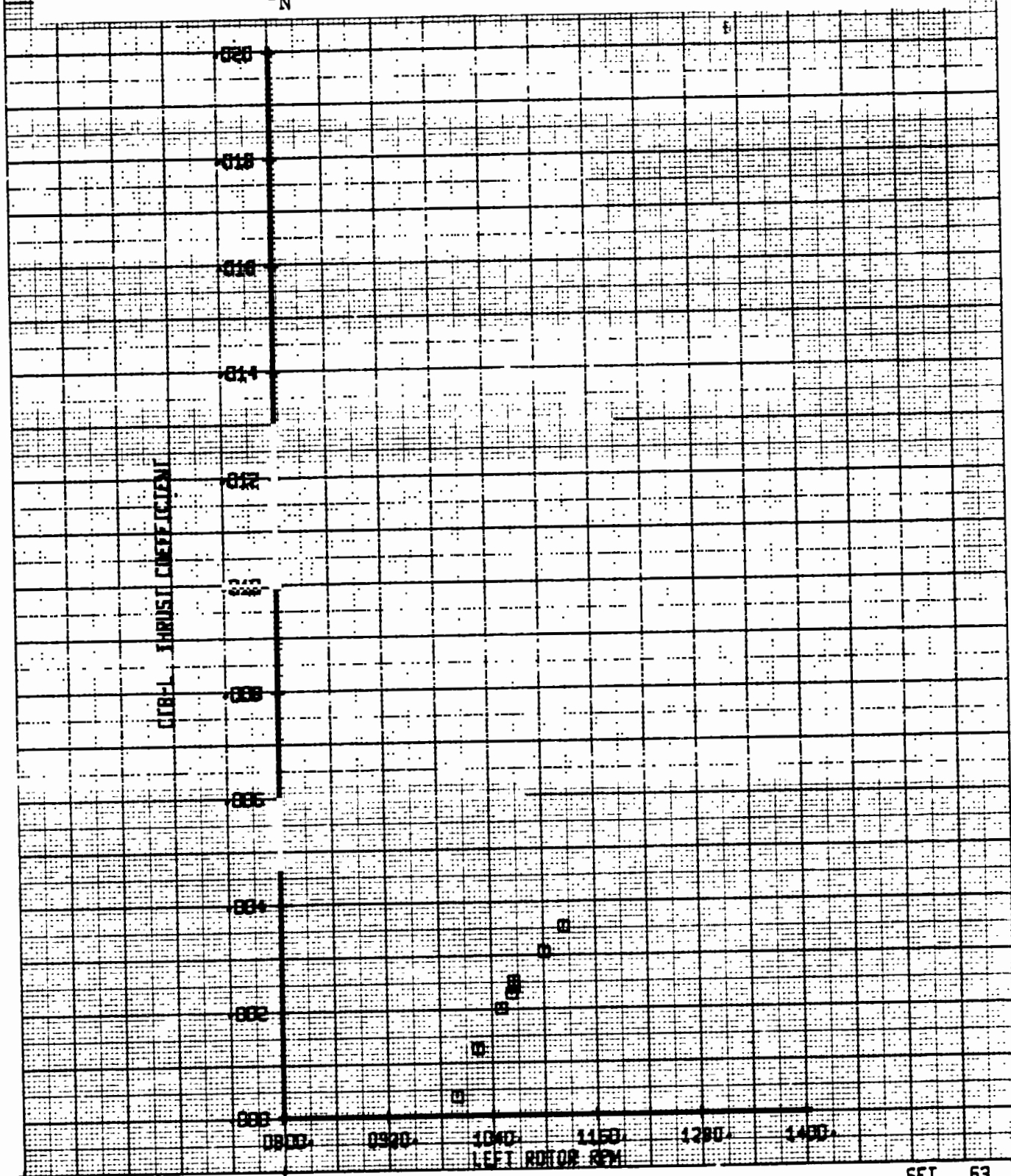
VARY

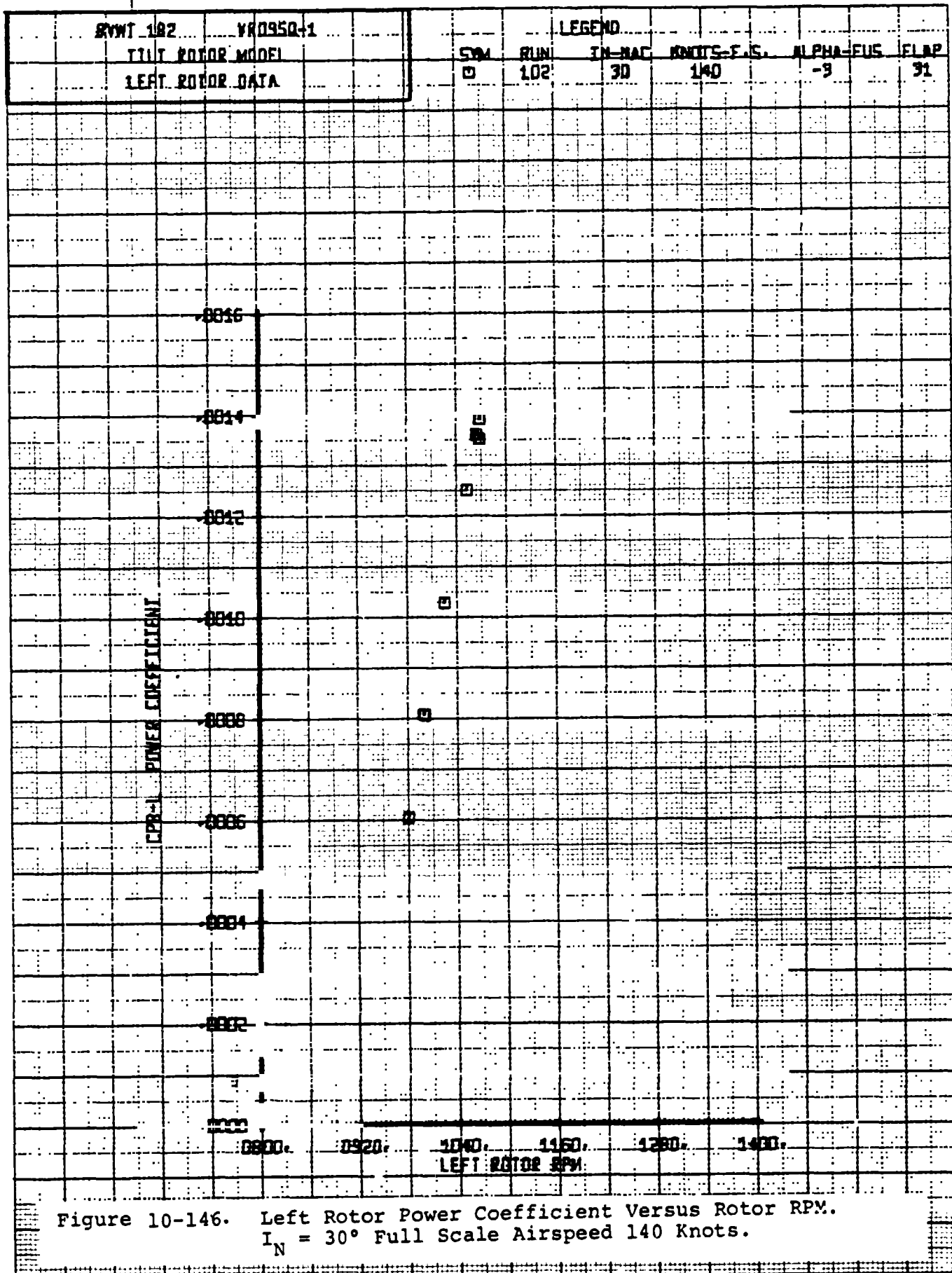
Figure 10-144. Alt. Right Pitch Link Load Versus Right Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

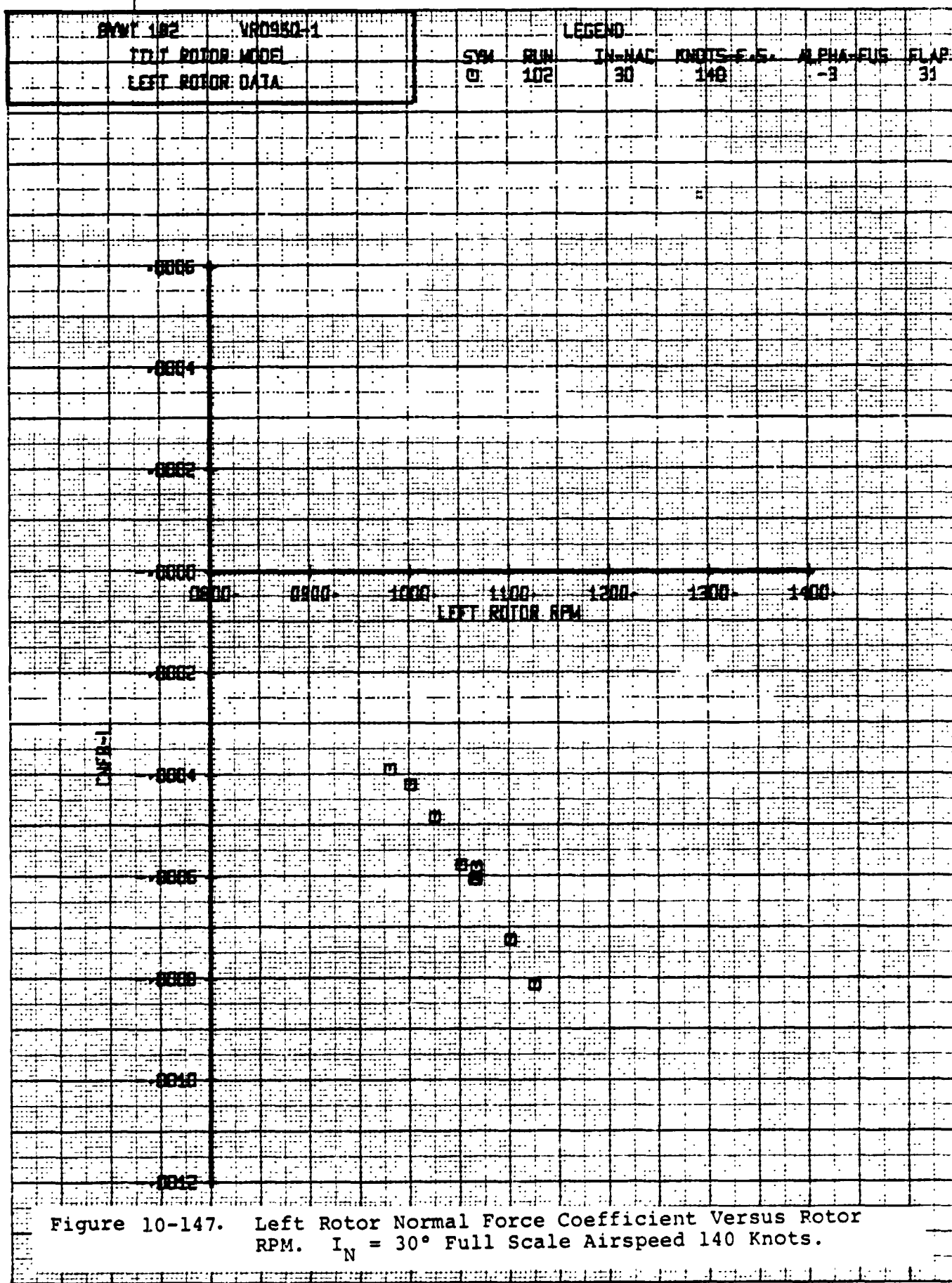


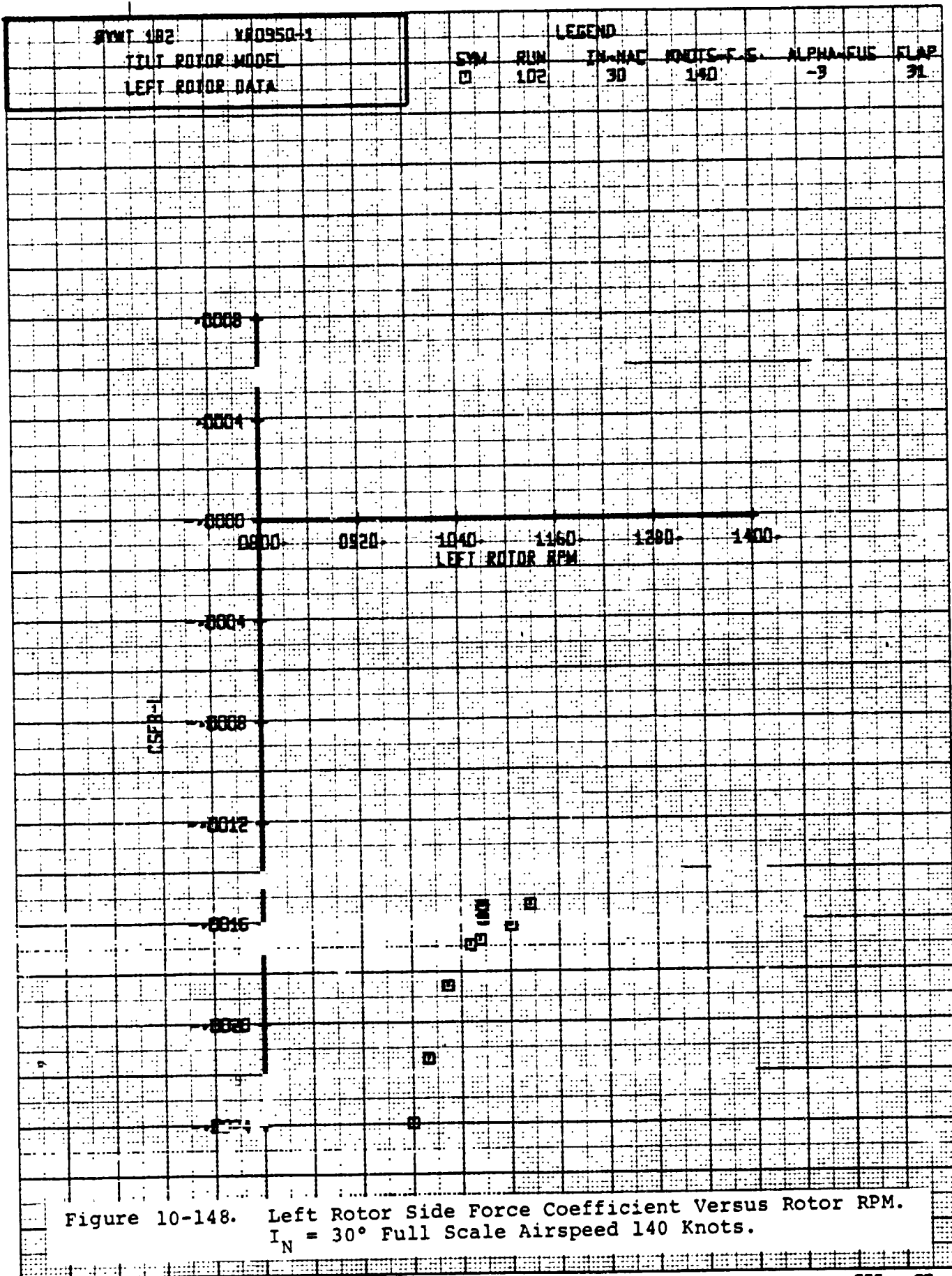
BYWT 182	VR0950-1	SYM	RUN	IN-NAC	INTE-F-E	ALPHA-FUS	FLAP
LEFT ROTOR MODEL		10	102	30	140	-3	31
LEFT ROTOR DATA							

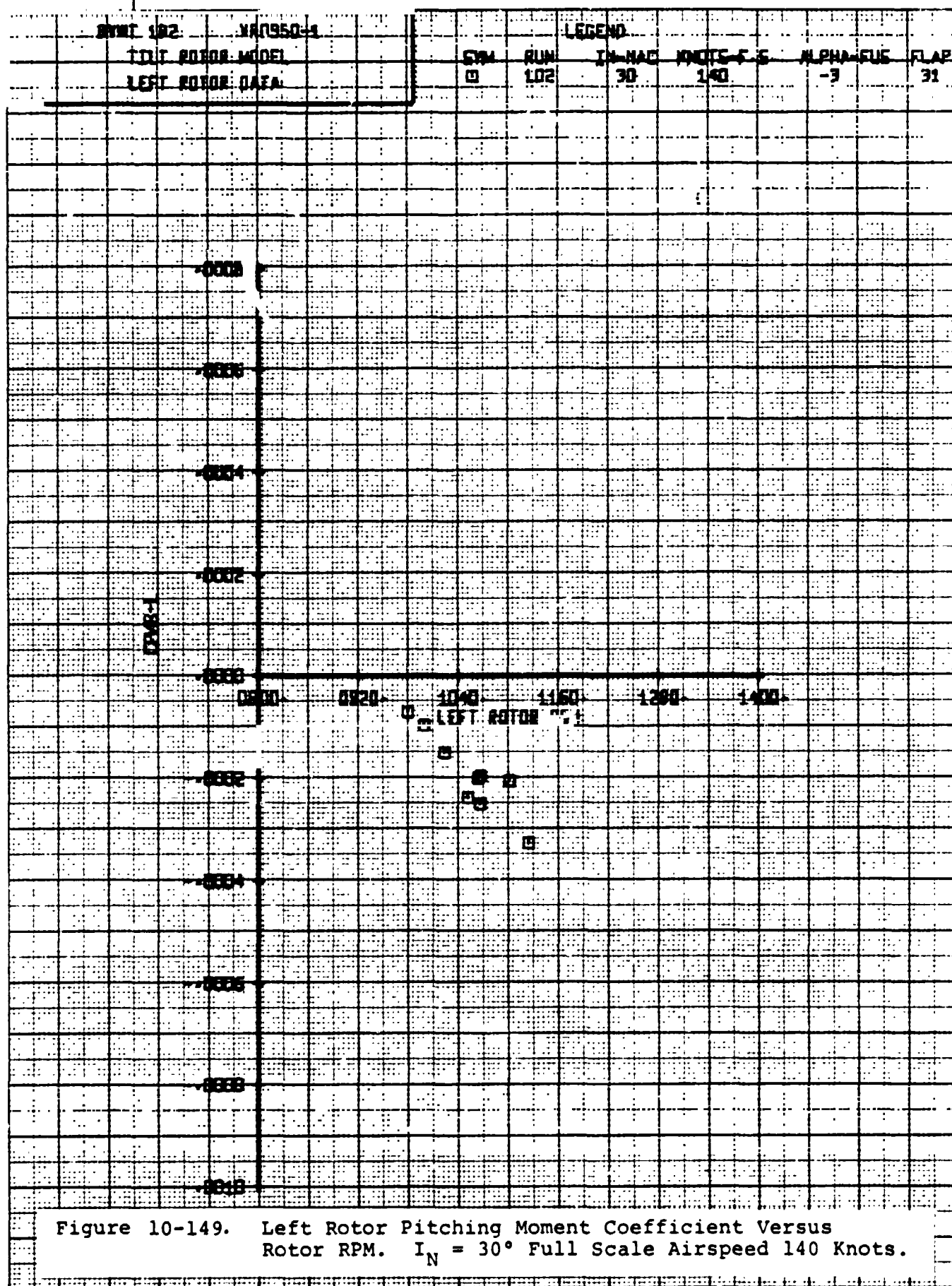
Figure 10-145. Left Rotor Thrust Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

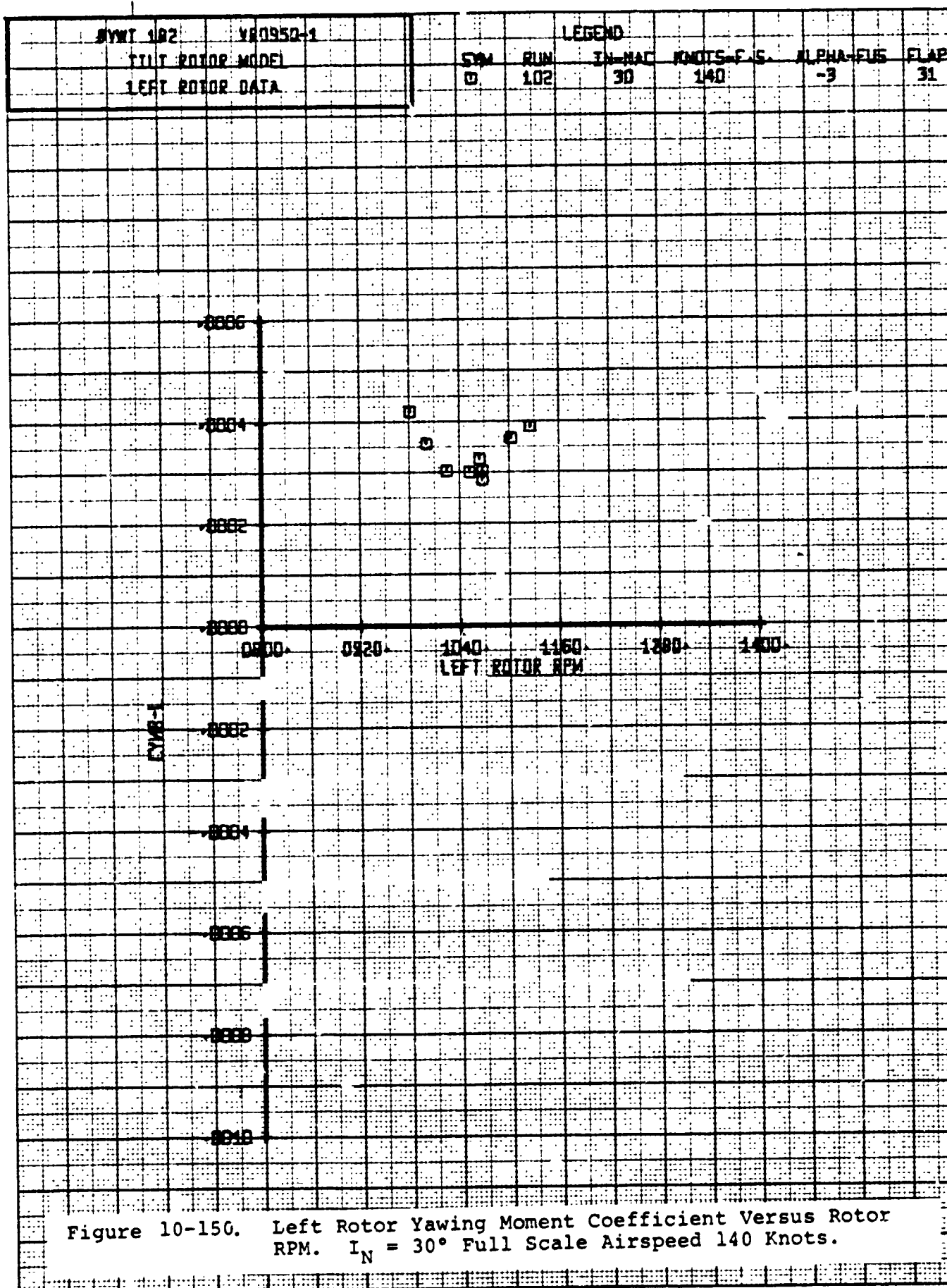






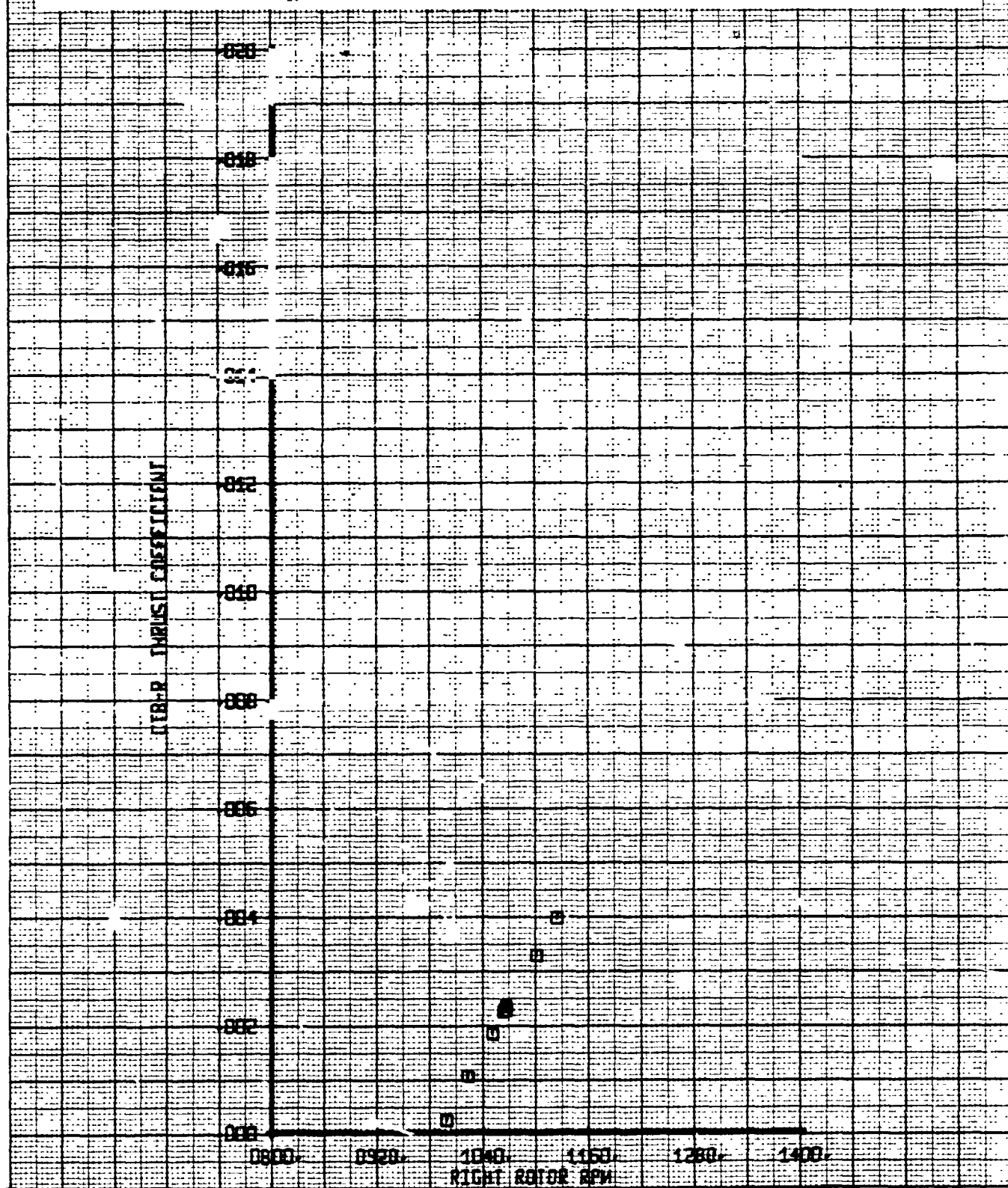






SVWT 182	YND950-4	LEGEND					
THRT ROTOR MODE		SYM	PLN	IN MAC	KNOTS F.S.	ALPHA DEG	CLAP
RIGHT ROTOR DATA		□	102	30	140	-3	31

Figure 10-151. Right Rotor Thrust Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.



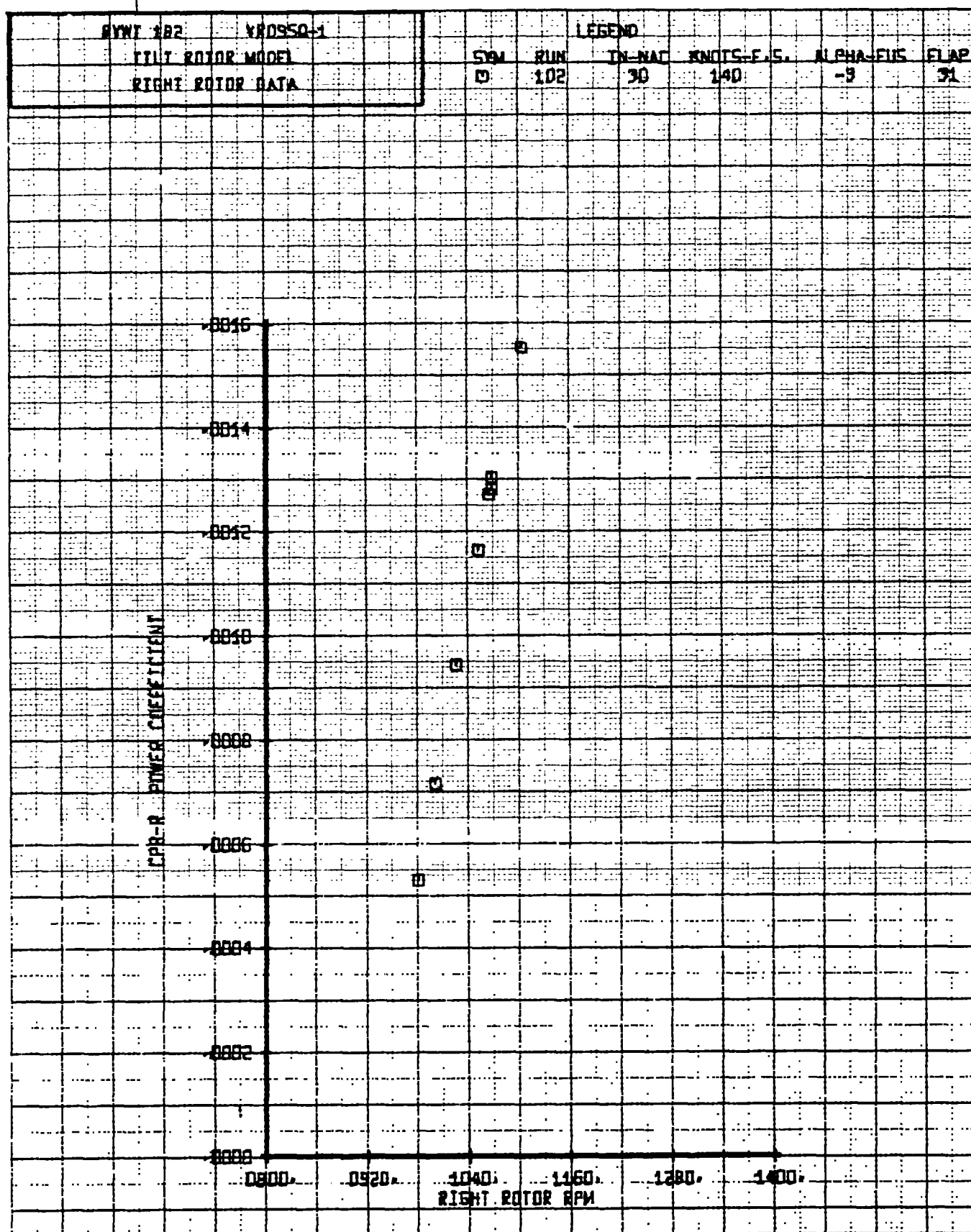
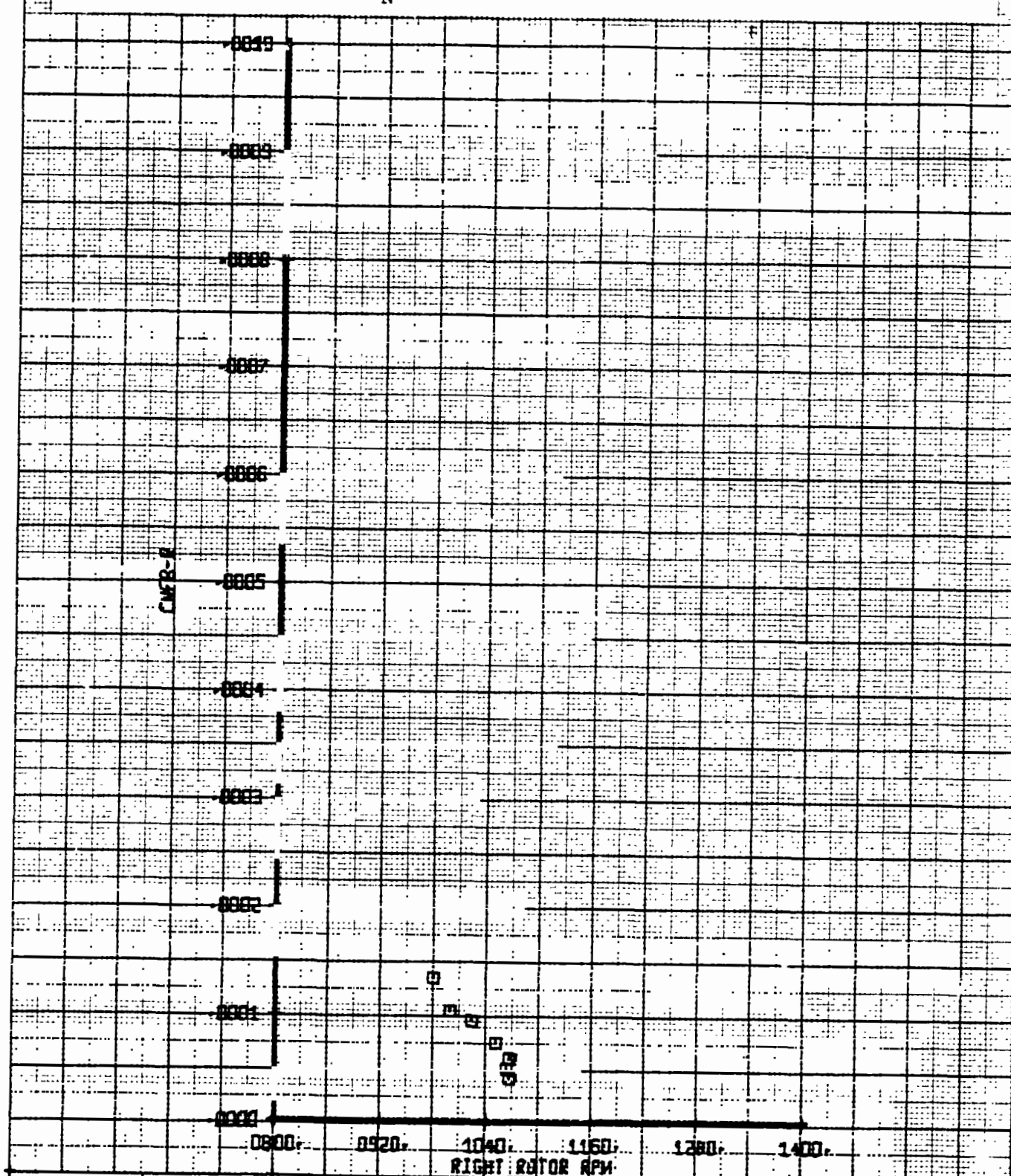
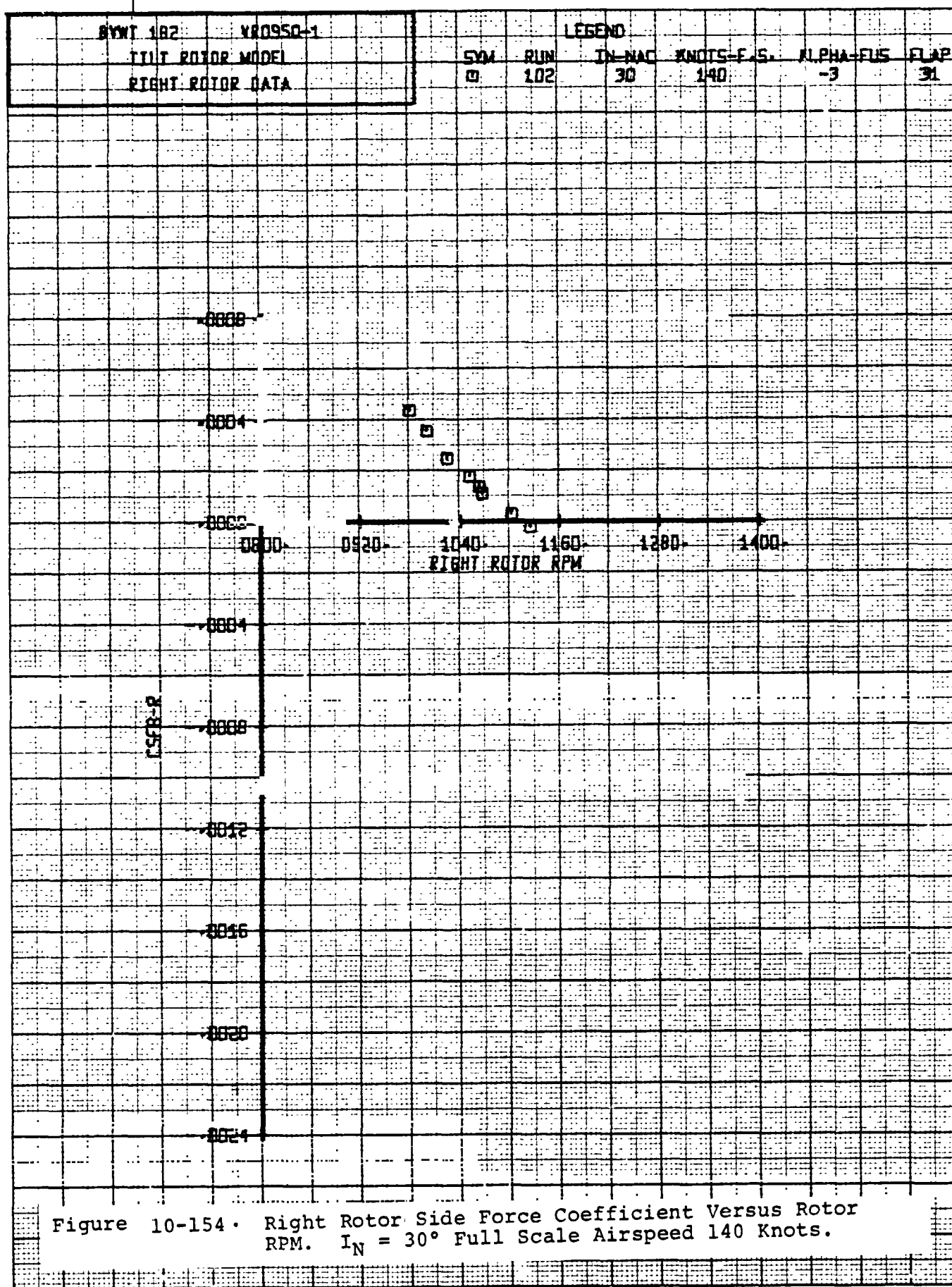


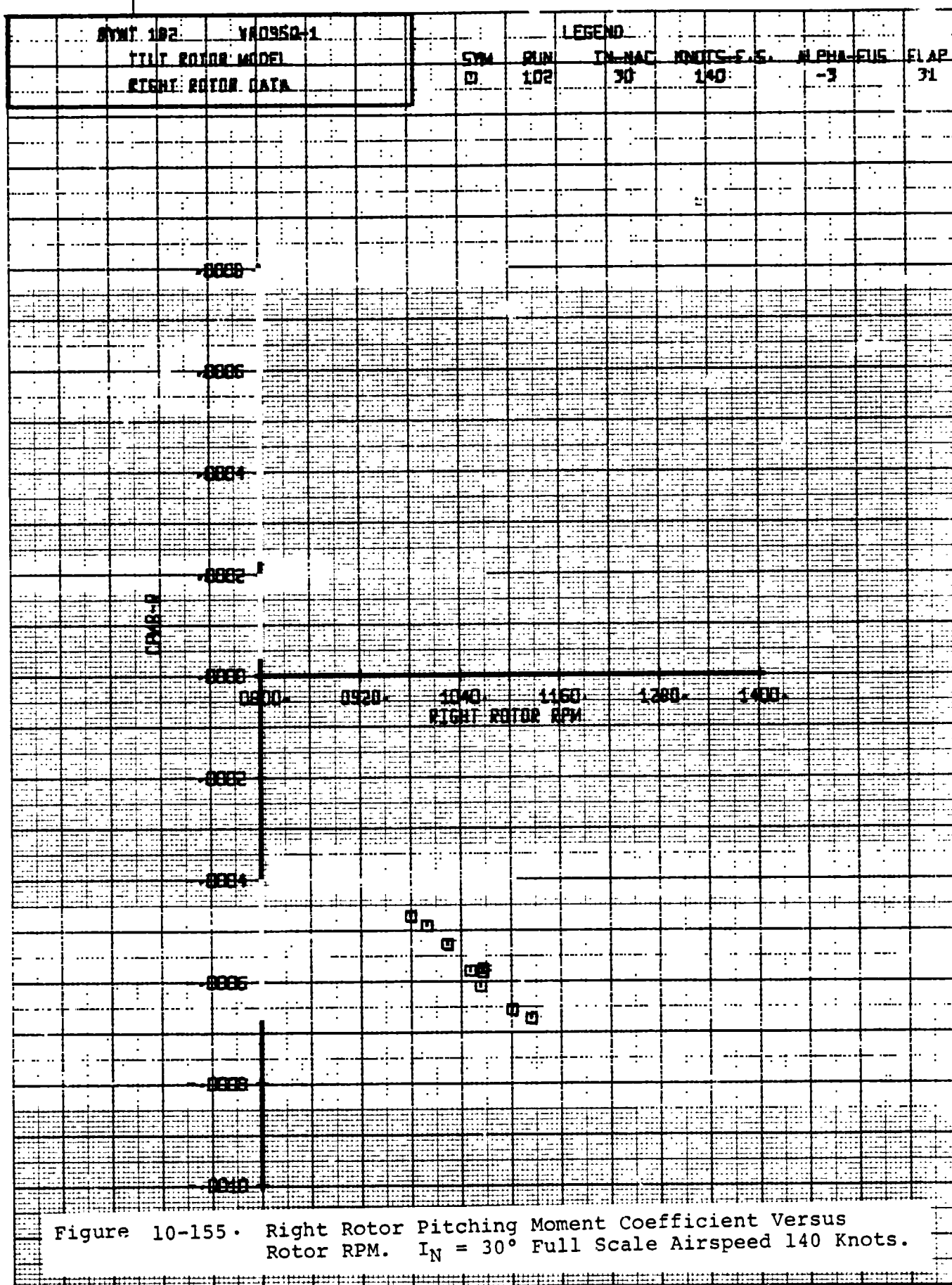
Figure 10-152. Right Rotor Power Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

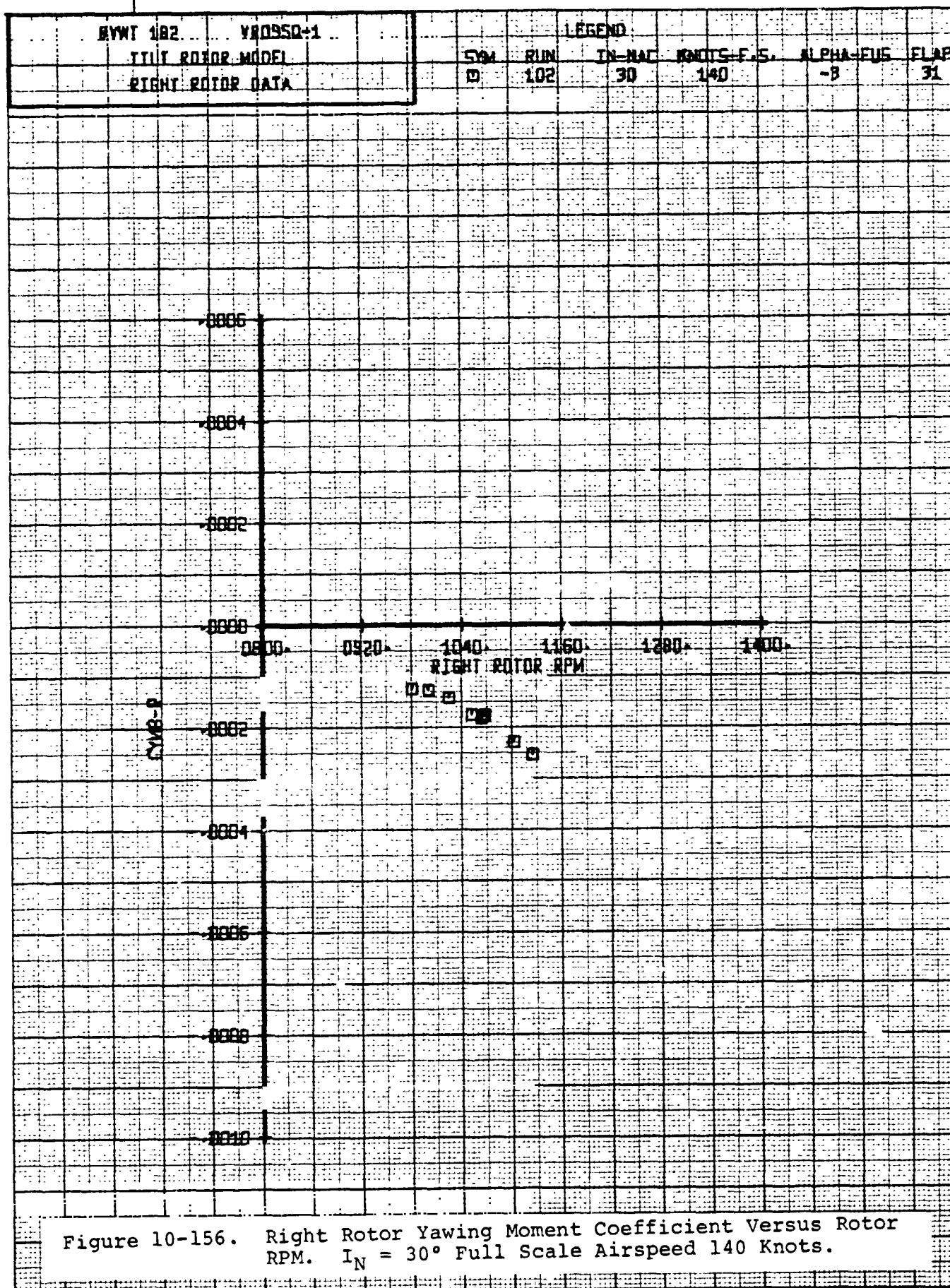
RVMT 182	YR0950-1	LEGEND			
TITLE ROTOR MODEL		SYM	RUN	IN MAC	KNOTS-F.S.
RIGHT ROTOR DATA		□	102	30	140
				ALPHA-DEG	FLAP
				-3	31

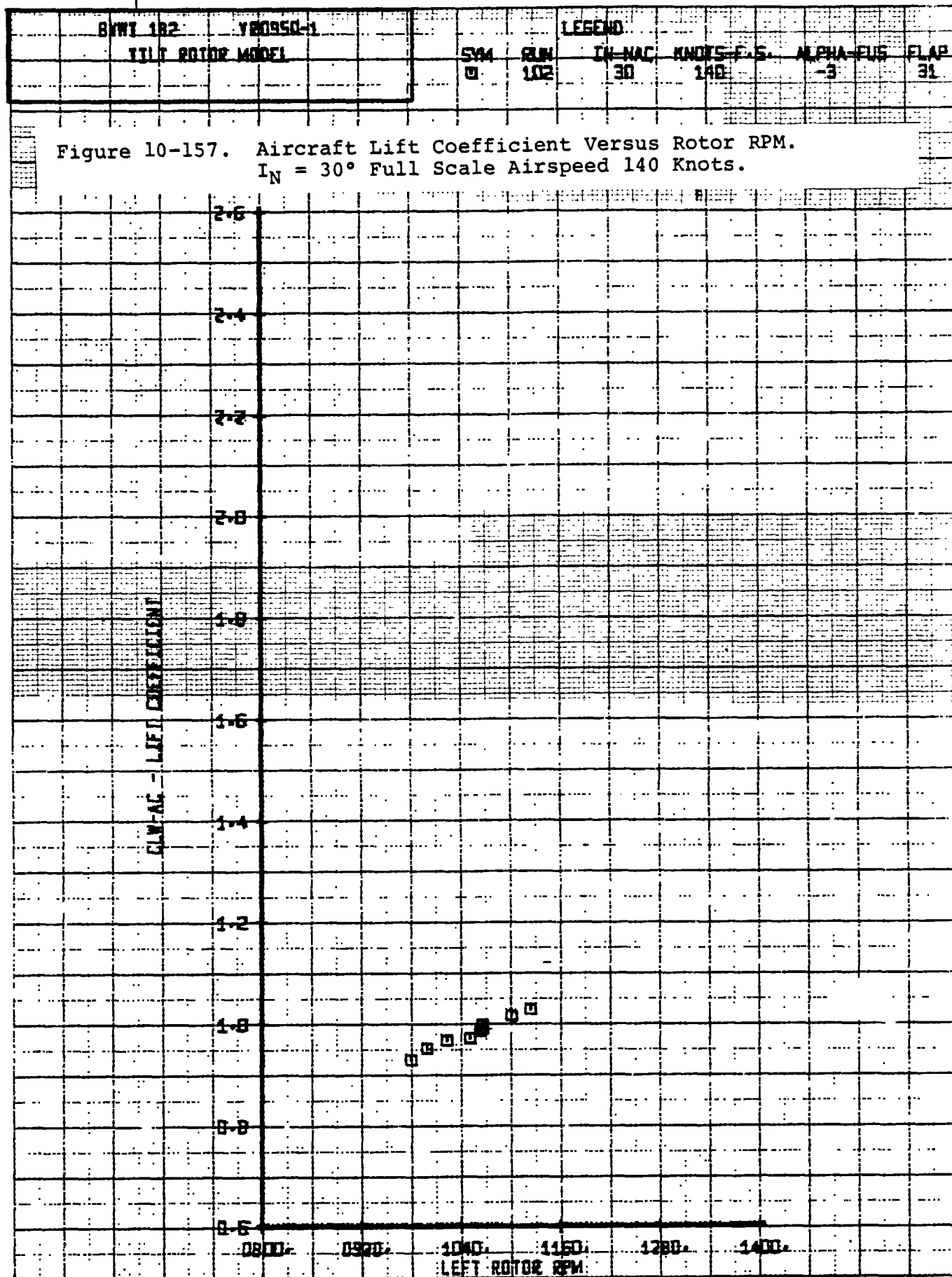
Figure 10-153. Right Rotor Normal Force Coefficient Versus Rotor RPM. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

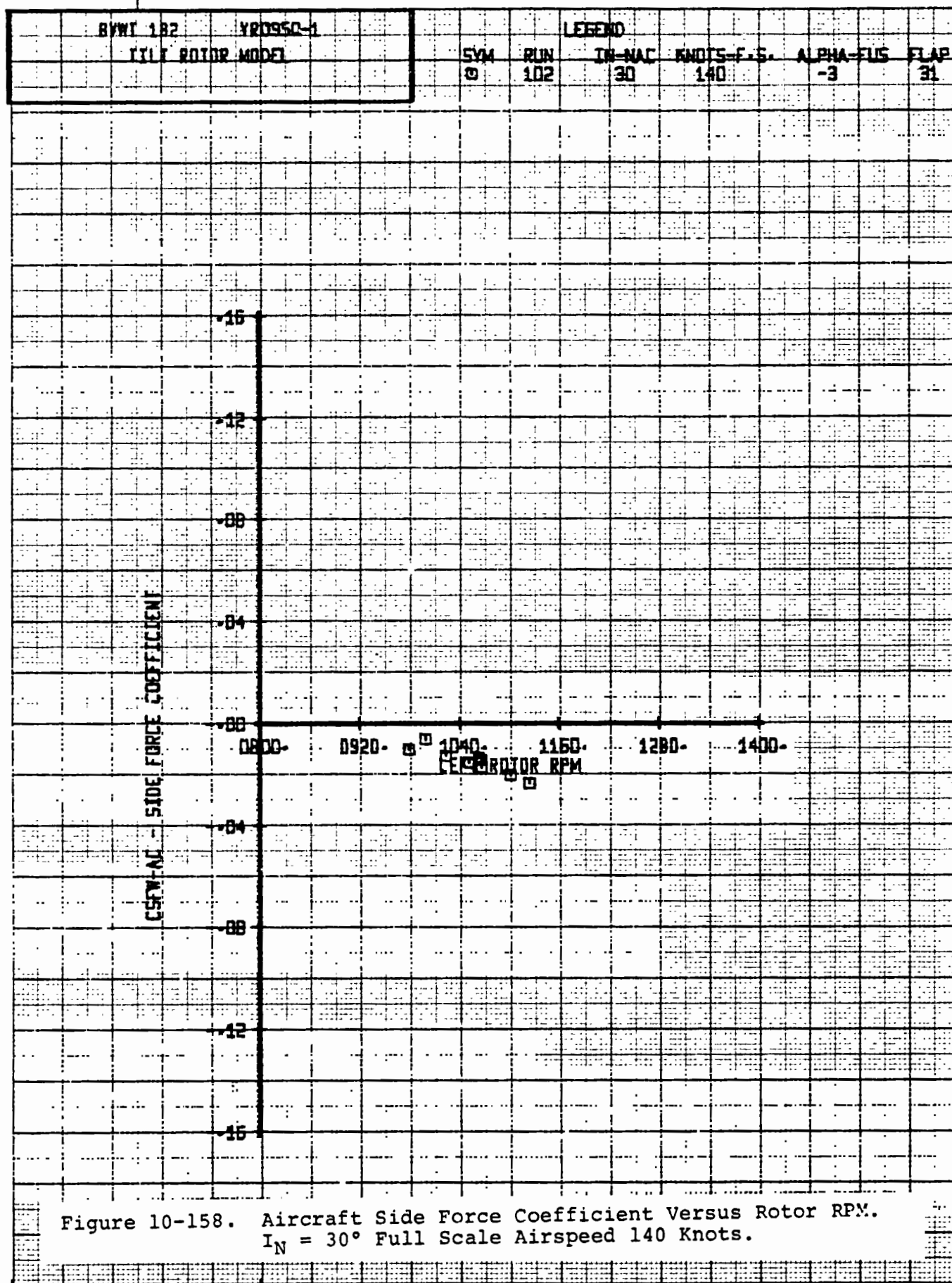


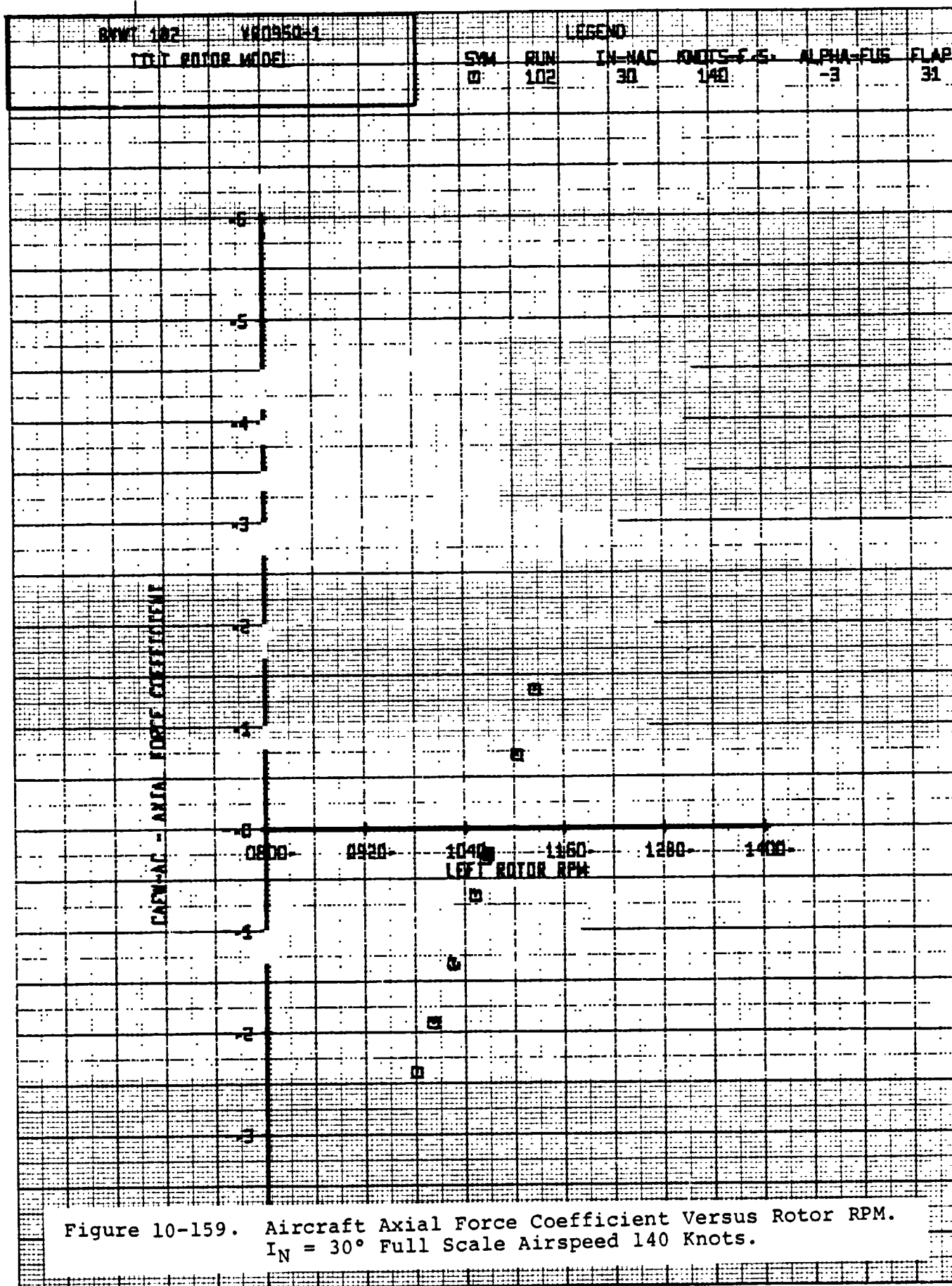


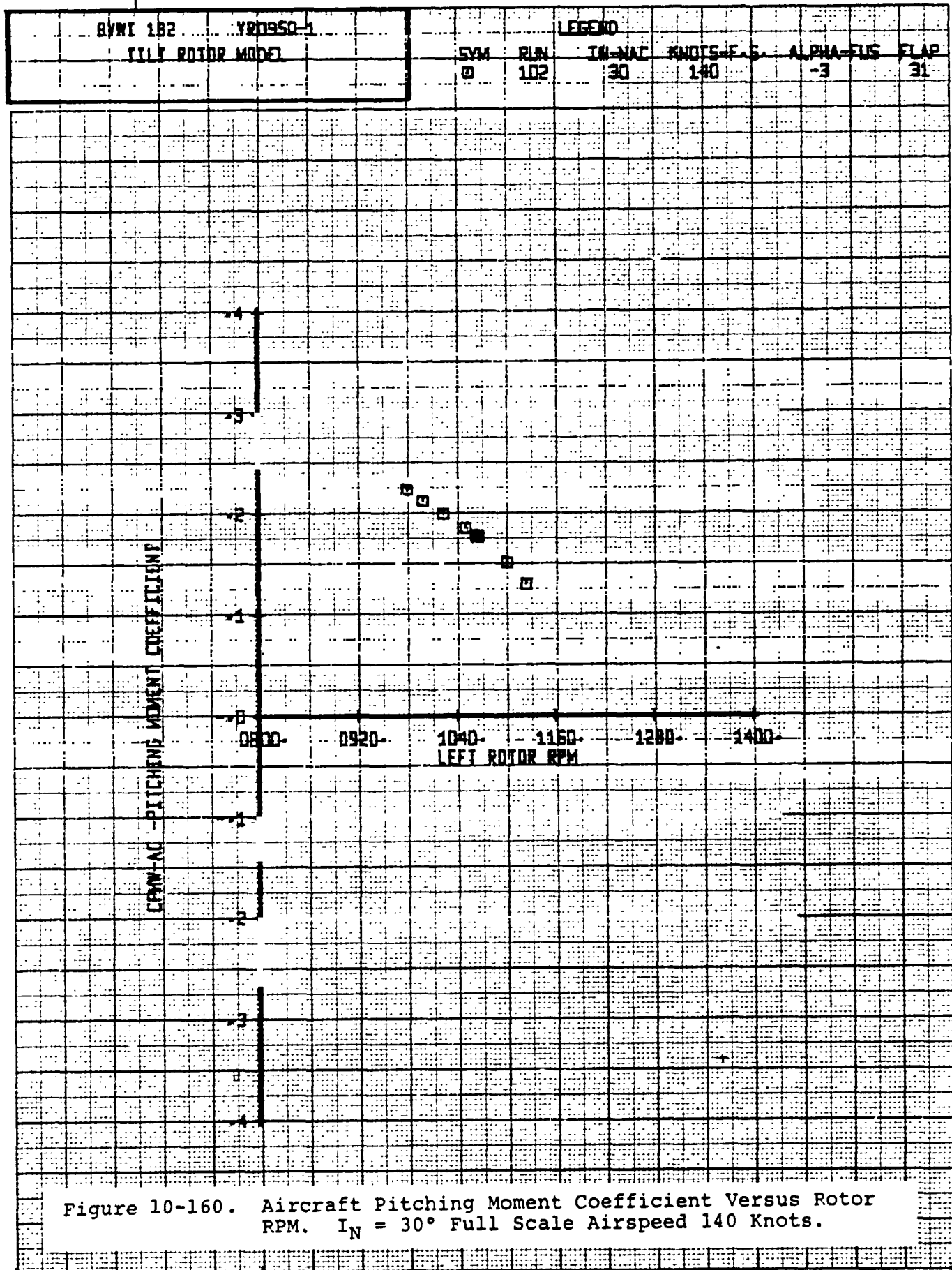


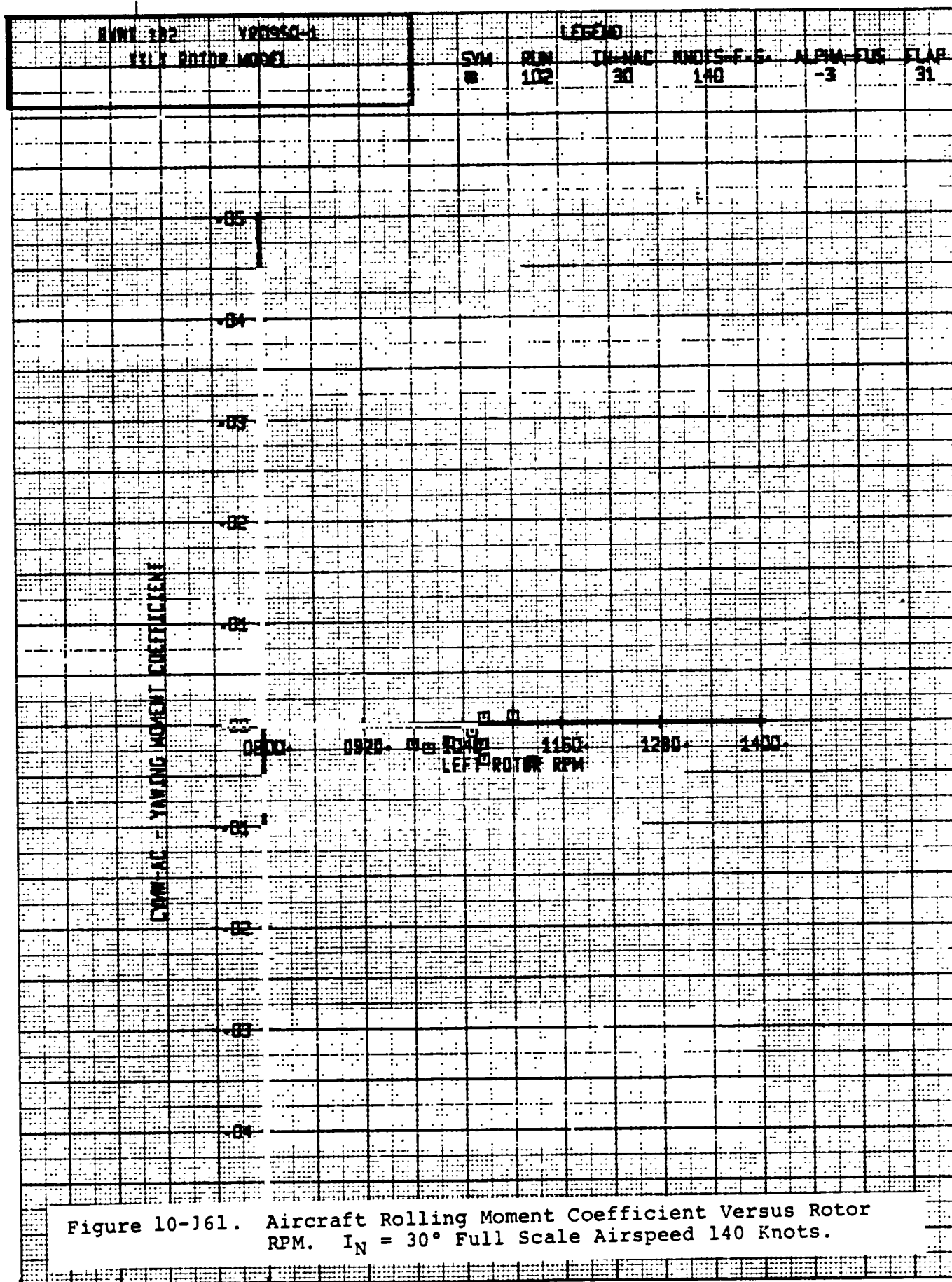












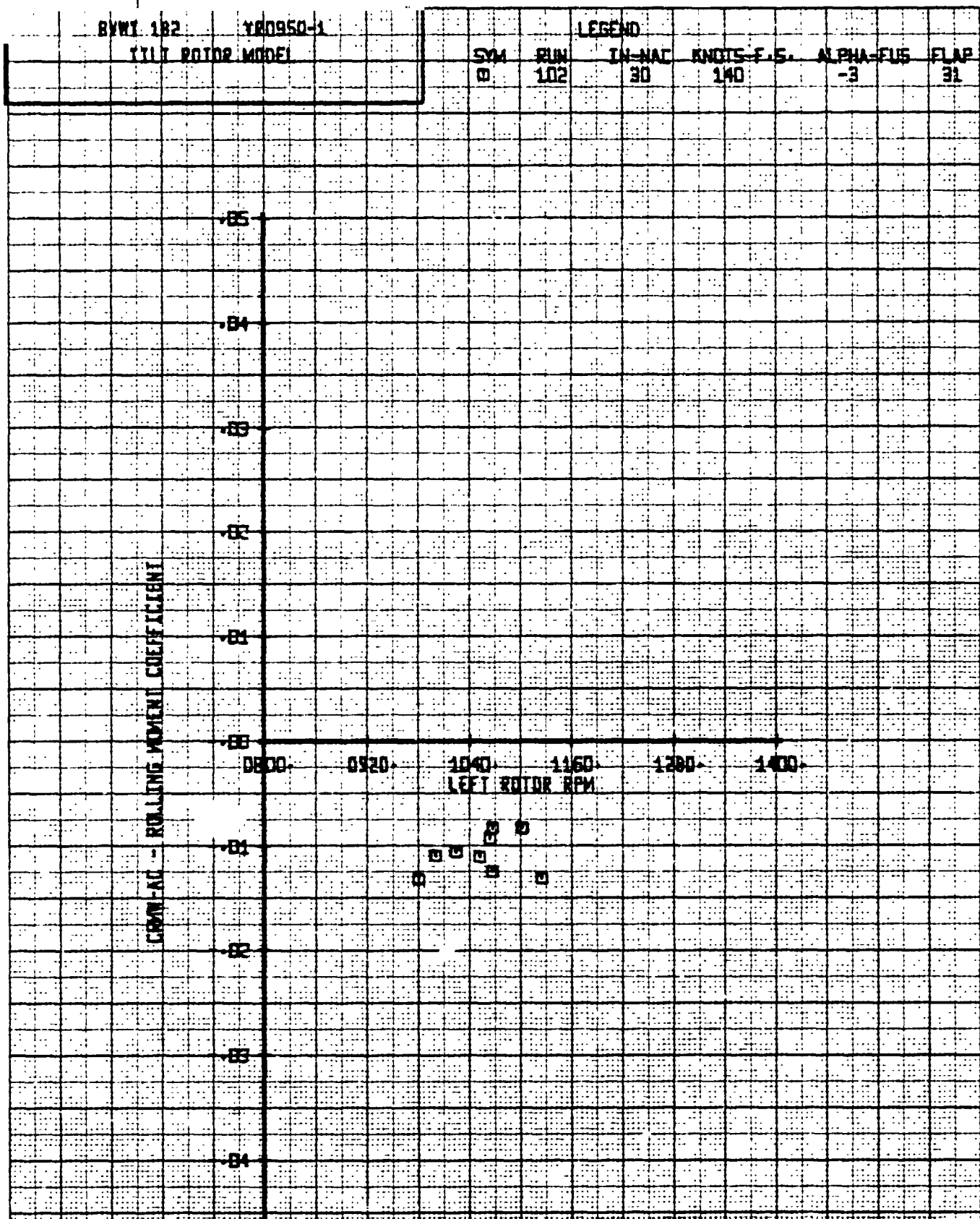


Figure 10-162. Aircraft Yawing Moment Coefficient Versus Rotor RPM. $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

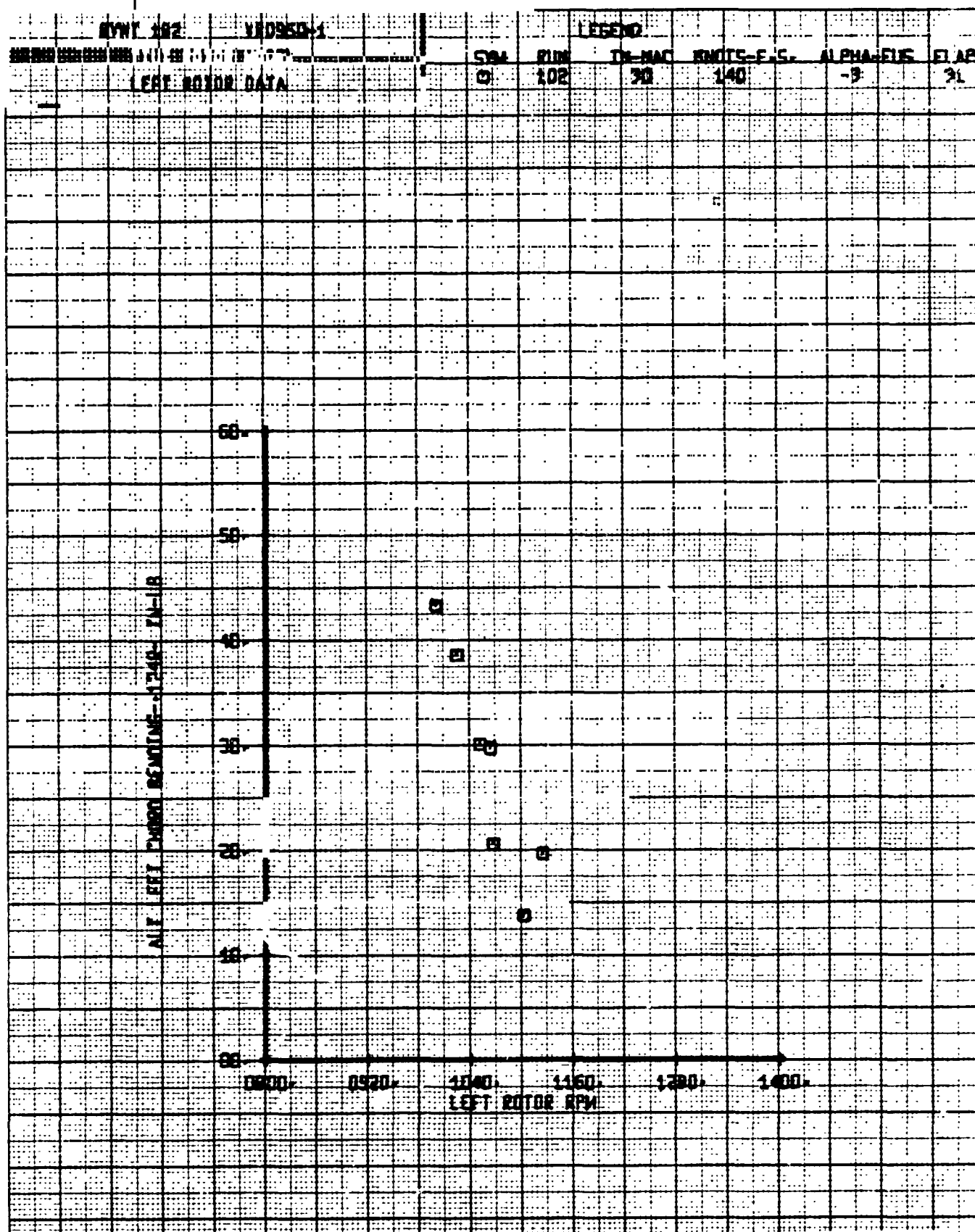
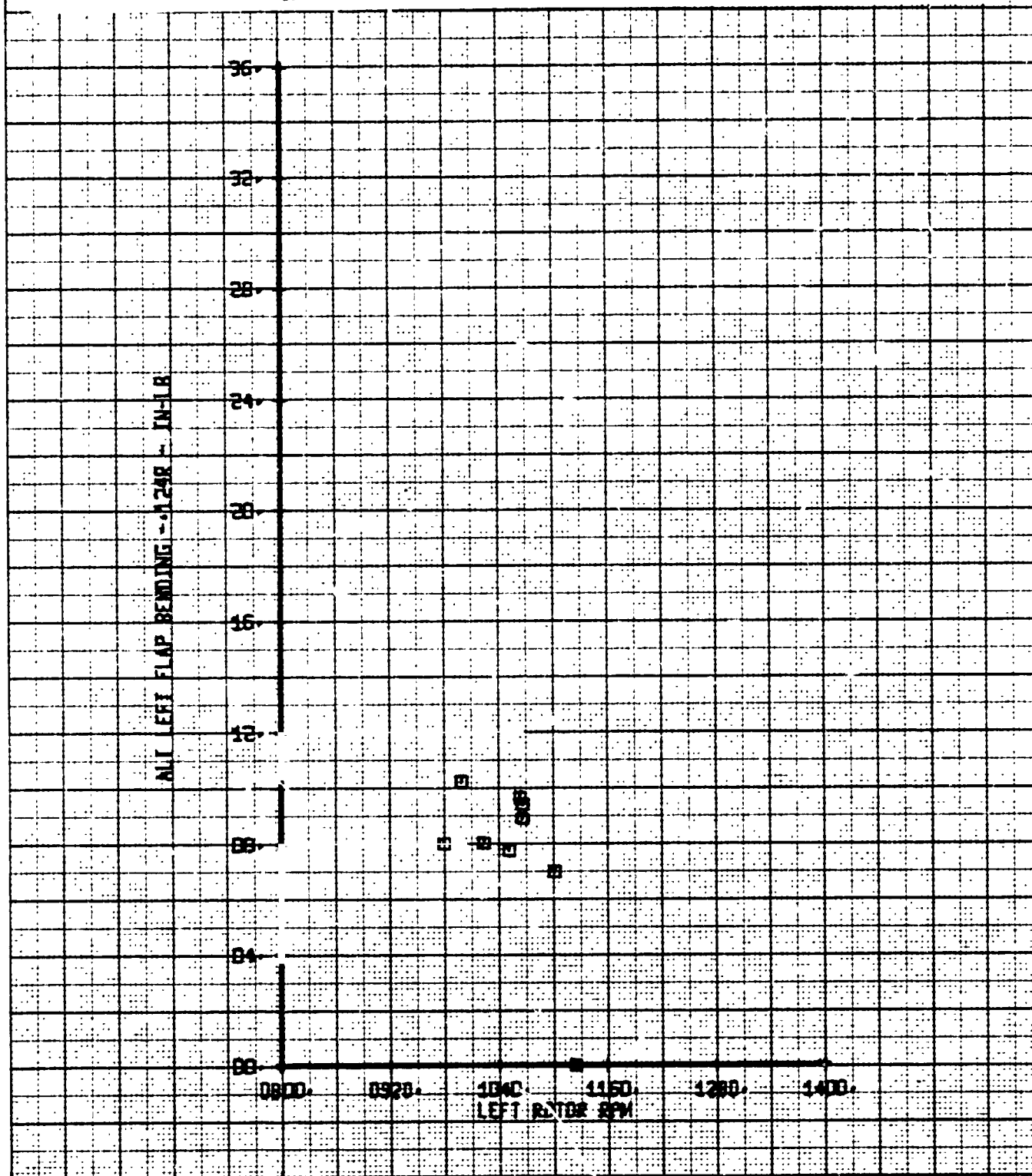
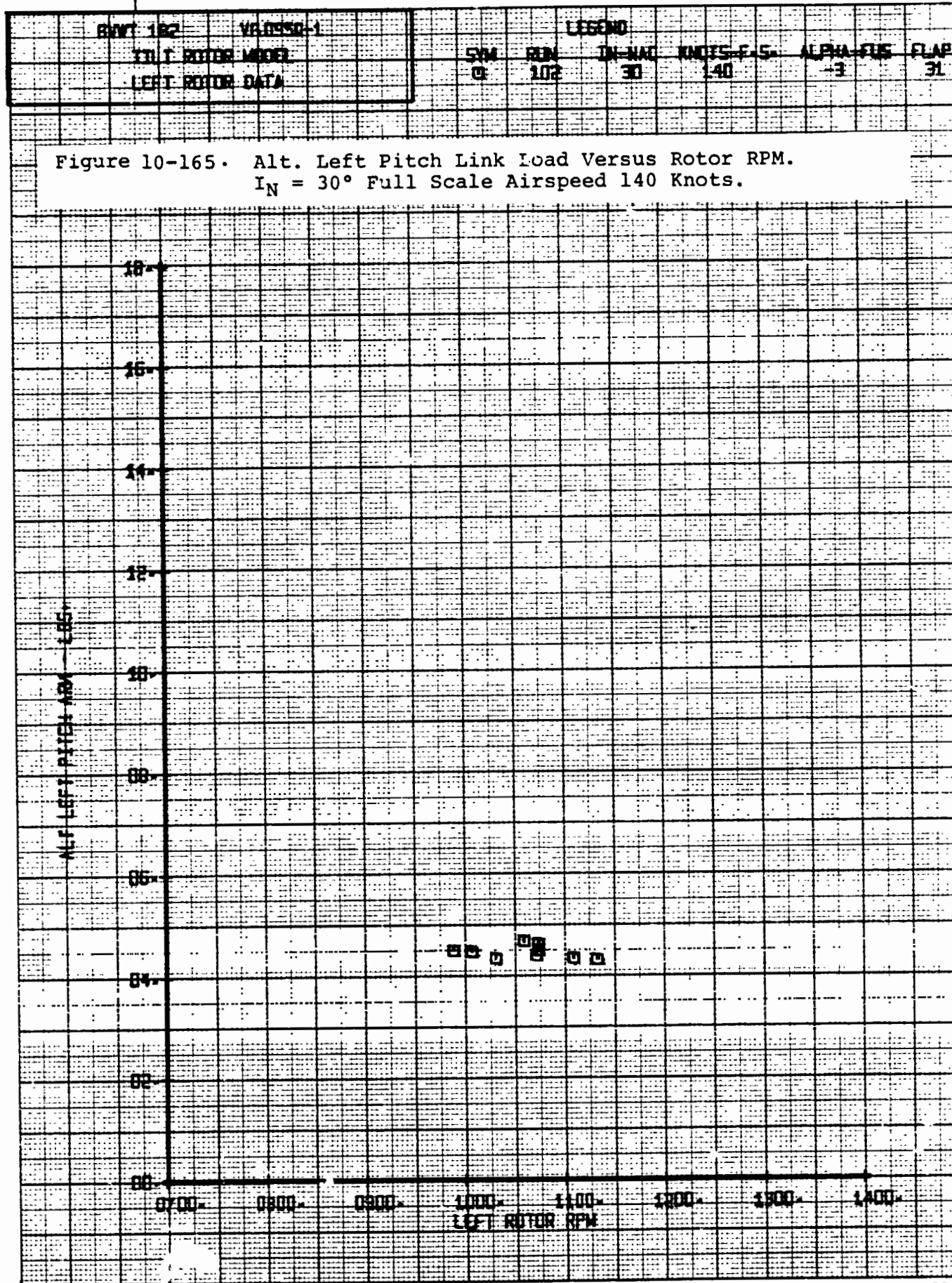


Figure 10-163. Alt. Left Chord Bending Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182	VF0950-1	LEGEND			
LEFT ROTOR MODE		SYM	RUN	IN-MAC	KNOTS-F.S.
LEFT ROTOR DATA		□	102	30	140
					ALPHA-FUS
					-9
					FLAP
					31

Figure 10-164. Alt. Left Flap Bending Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knts.





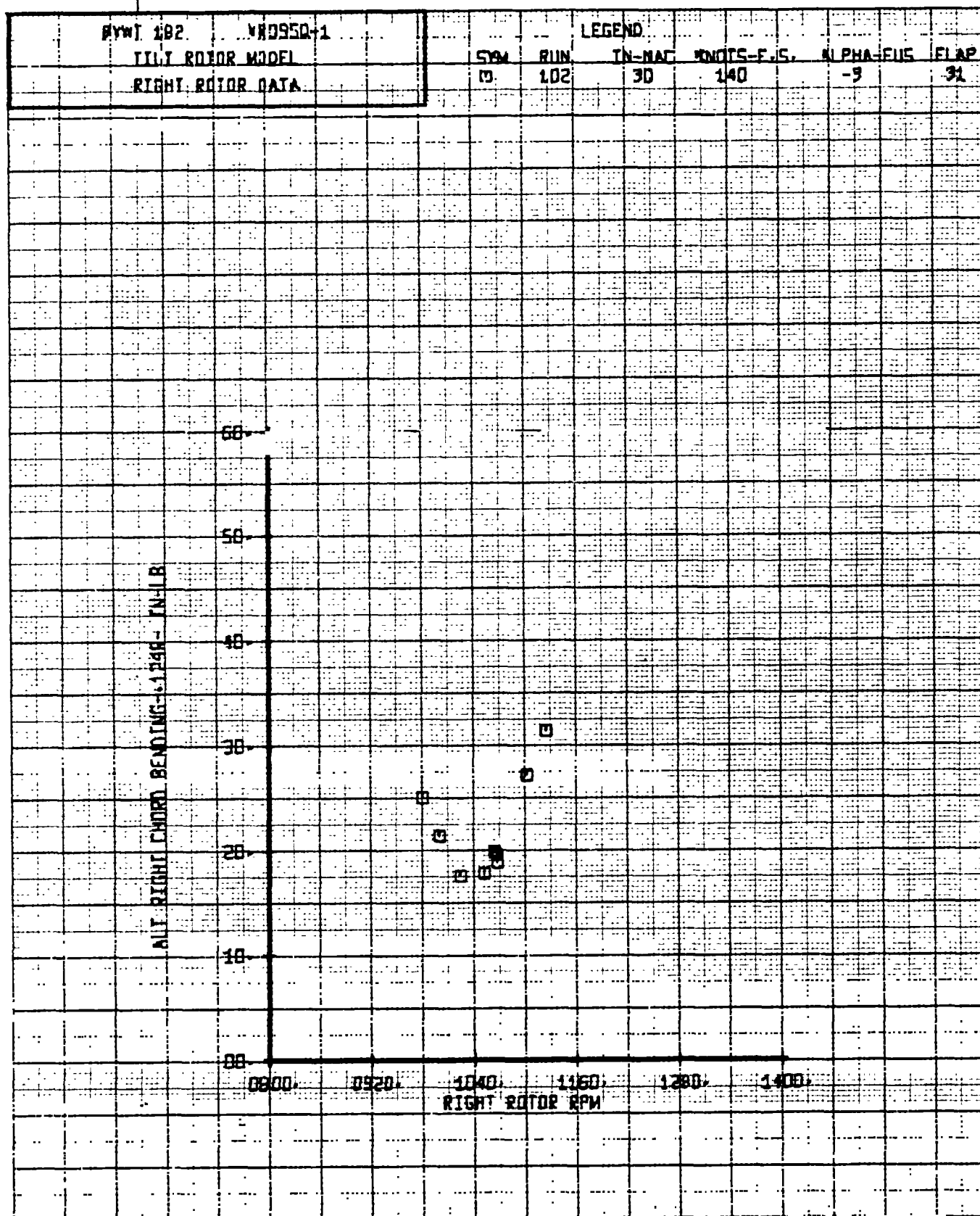
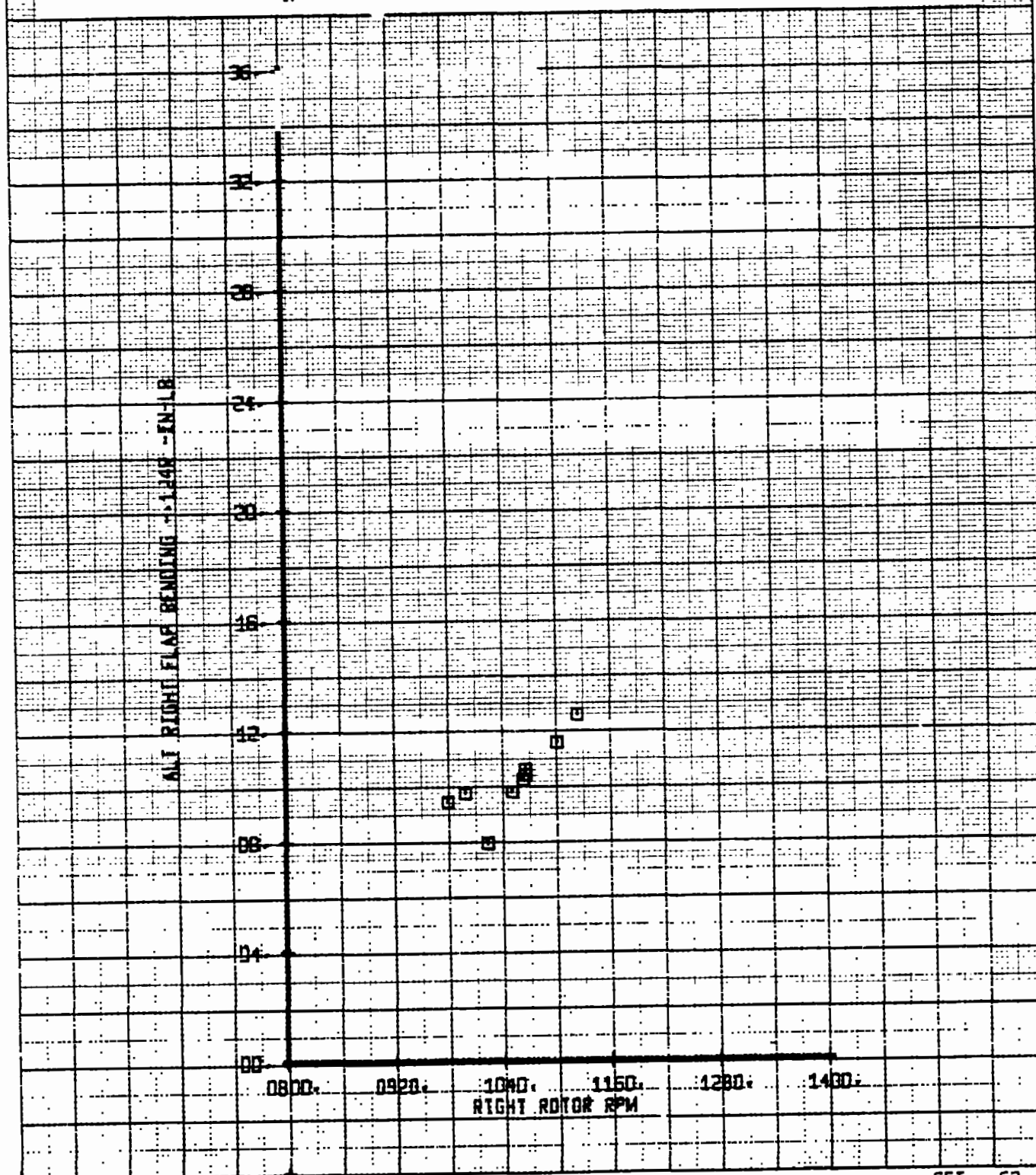
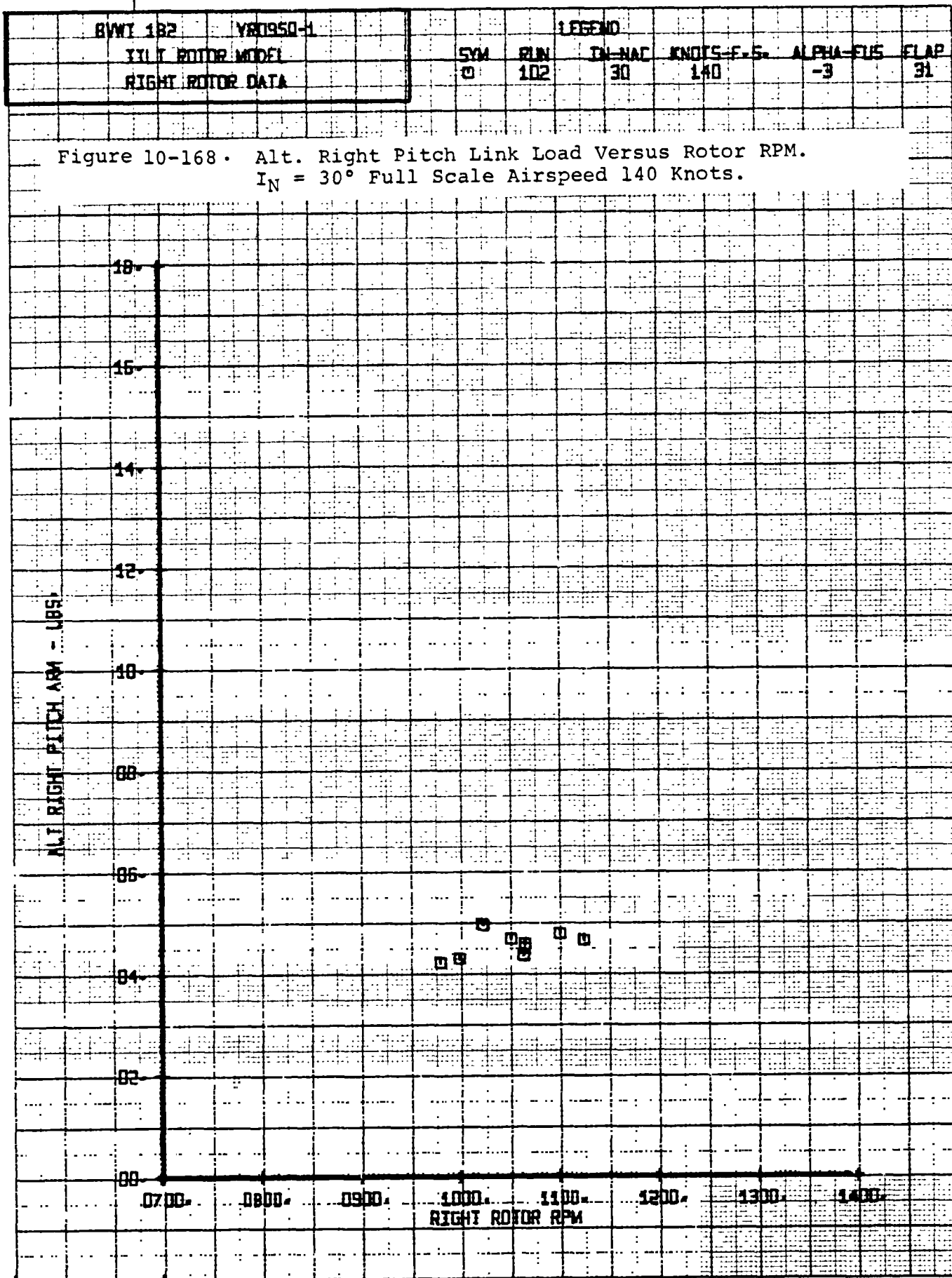


Figure 10-166. Alt. Right Chord Bending Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.

BVWT 182	VR0950-1	LEGEND					
TILT ROTOR MODEL		SYM	IN-NAC	KNOTS-F.S.	ALPHA-DEG	FLAP	
RIGHT ROTOR DATA		□	102	30	140	-3	31

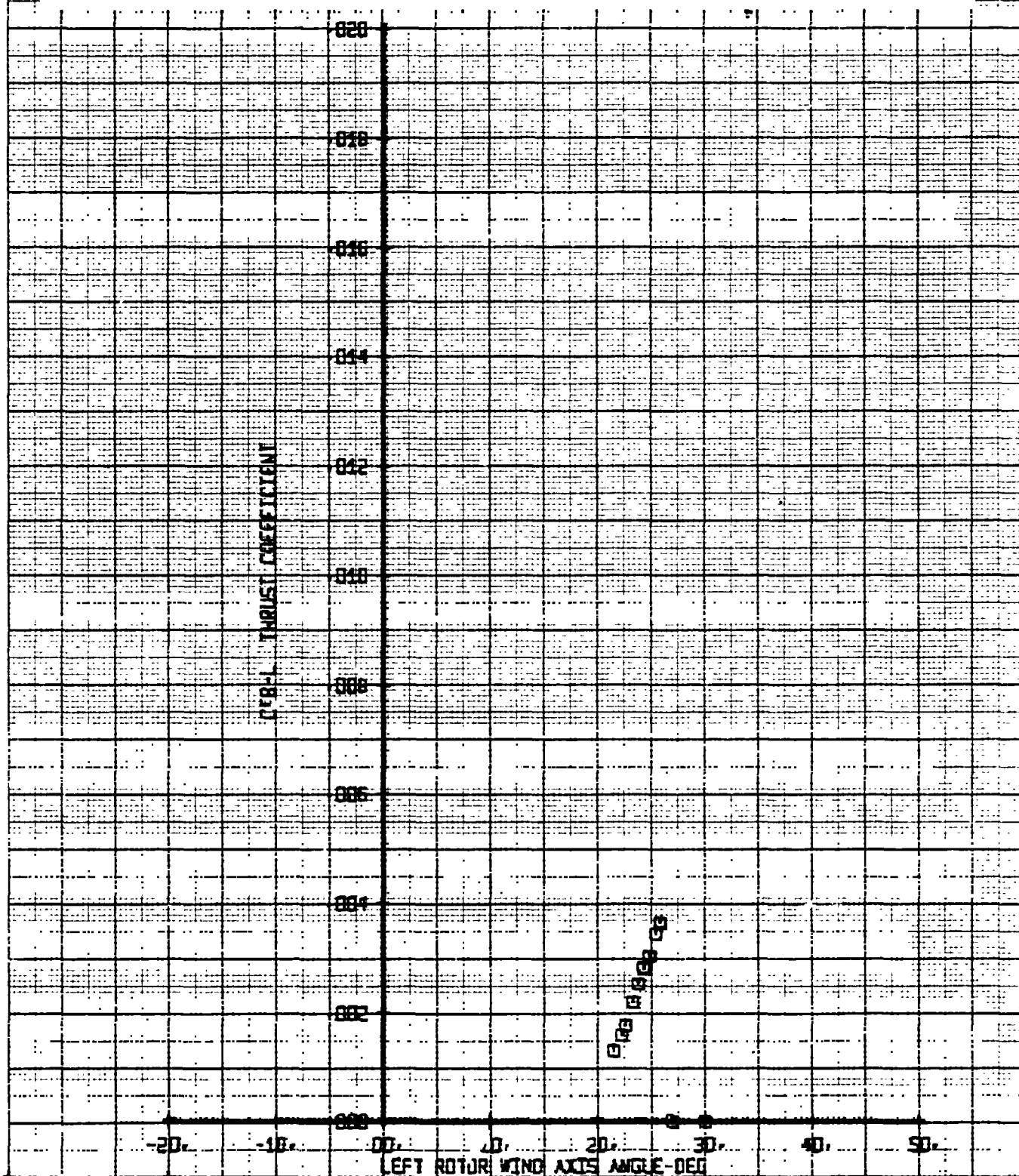
Figure 10-167. Alt. Right Flap Bending Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 140 Knots.





BYWT 182	VR09KD-1	LEGEND					
TILT ROTOR MODEL		SYM	RUN	IN-HAC	KNOTS-F.S.	ALPHA-DEG	FLAP
LEFT ROTOR DATA		□	111	30	180	VARY	31

Figure 11-001. Left Rotor Thrust Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



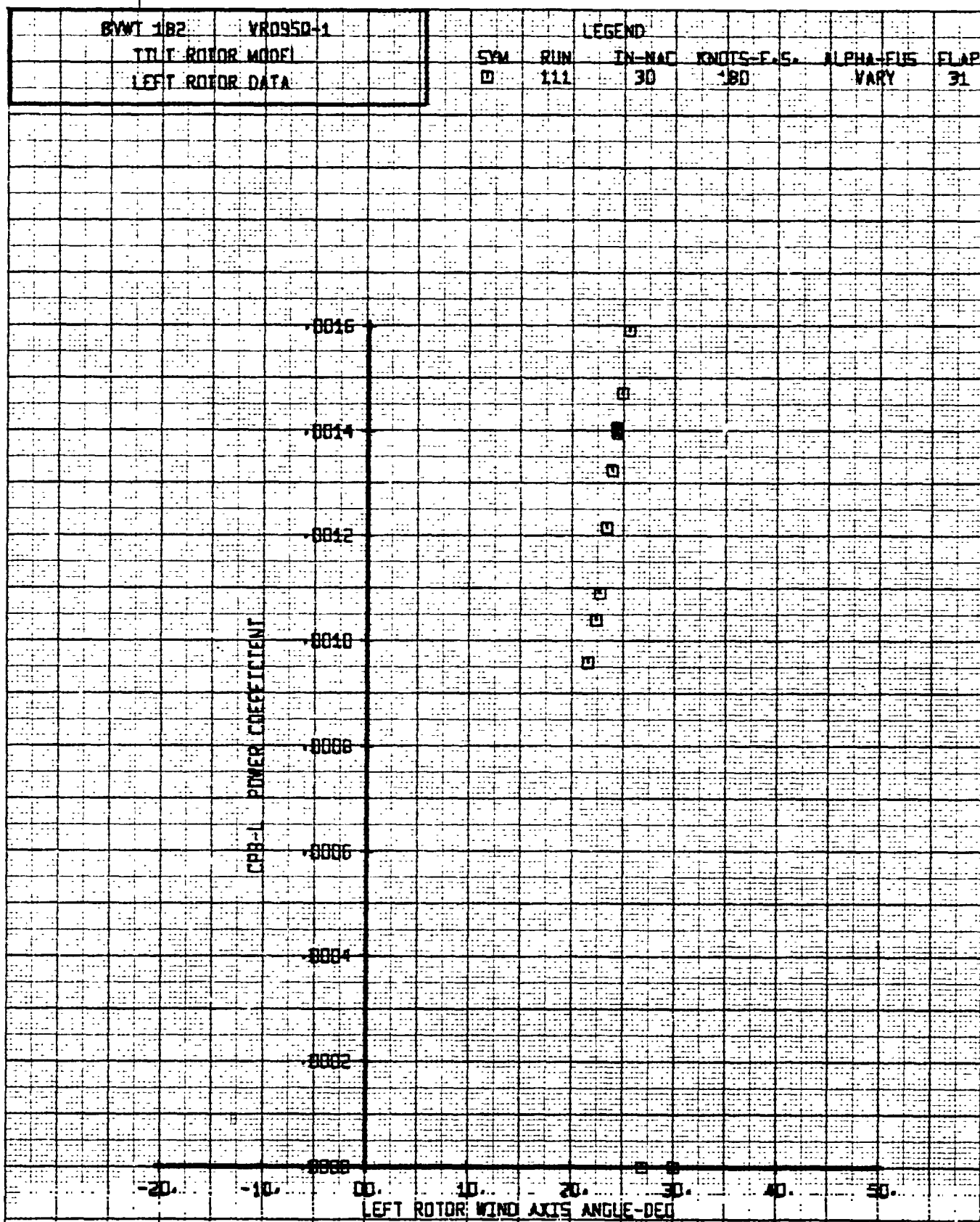


Figure 11-002. Left Rotor Power Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

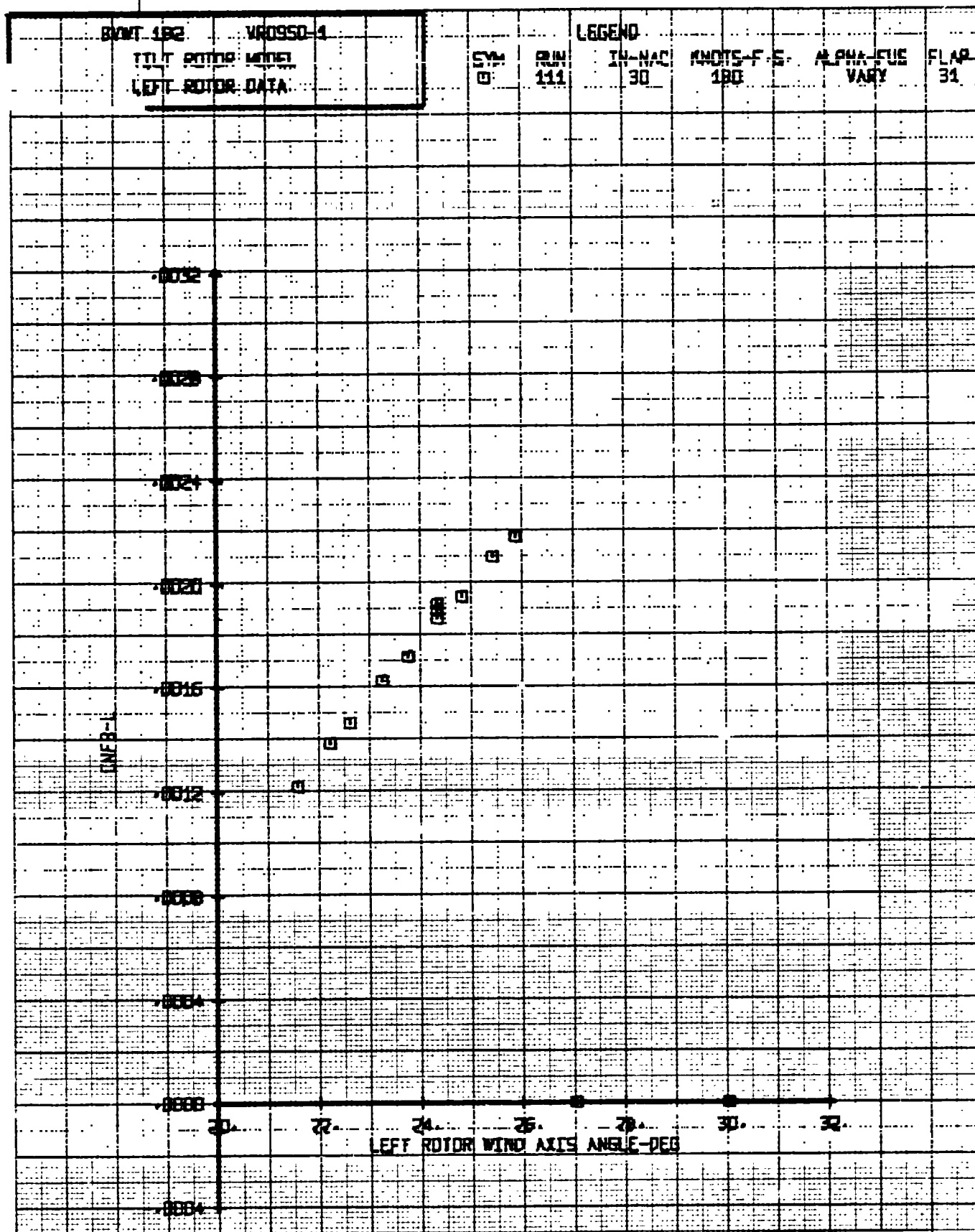


Figure 11-003. Left Rotor Normal Force Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

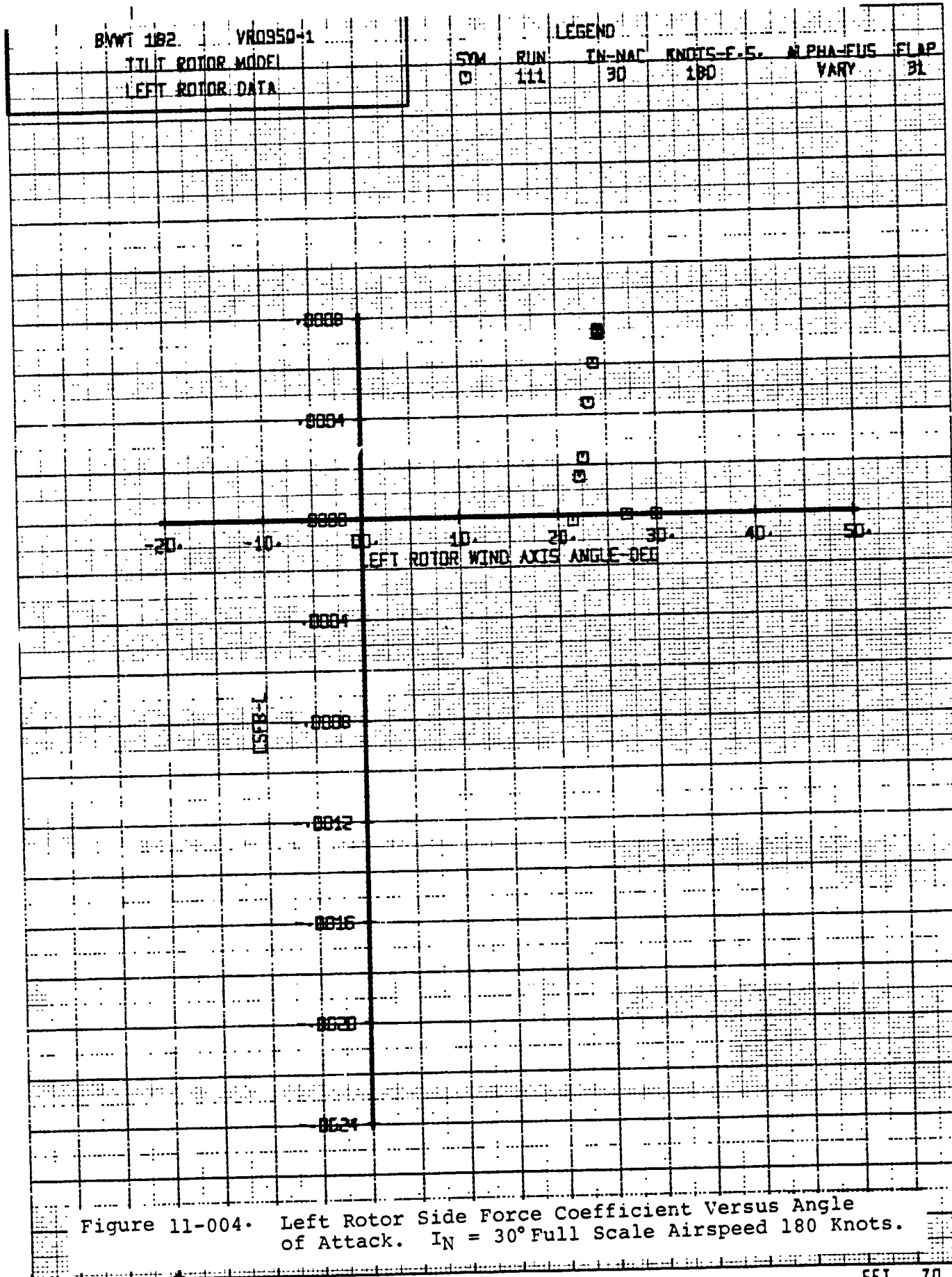
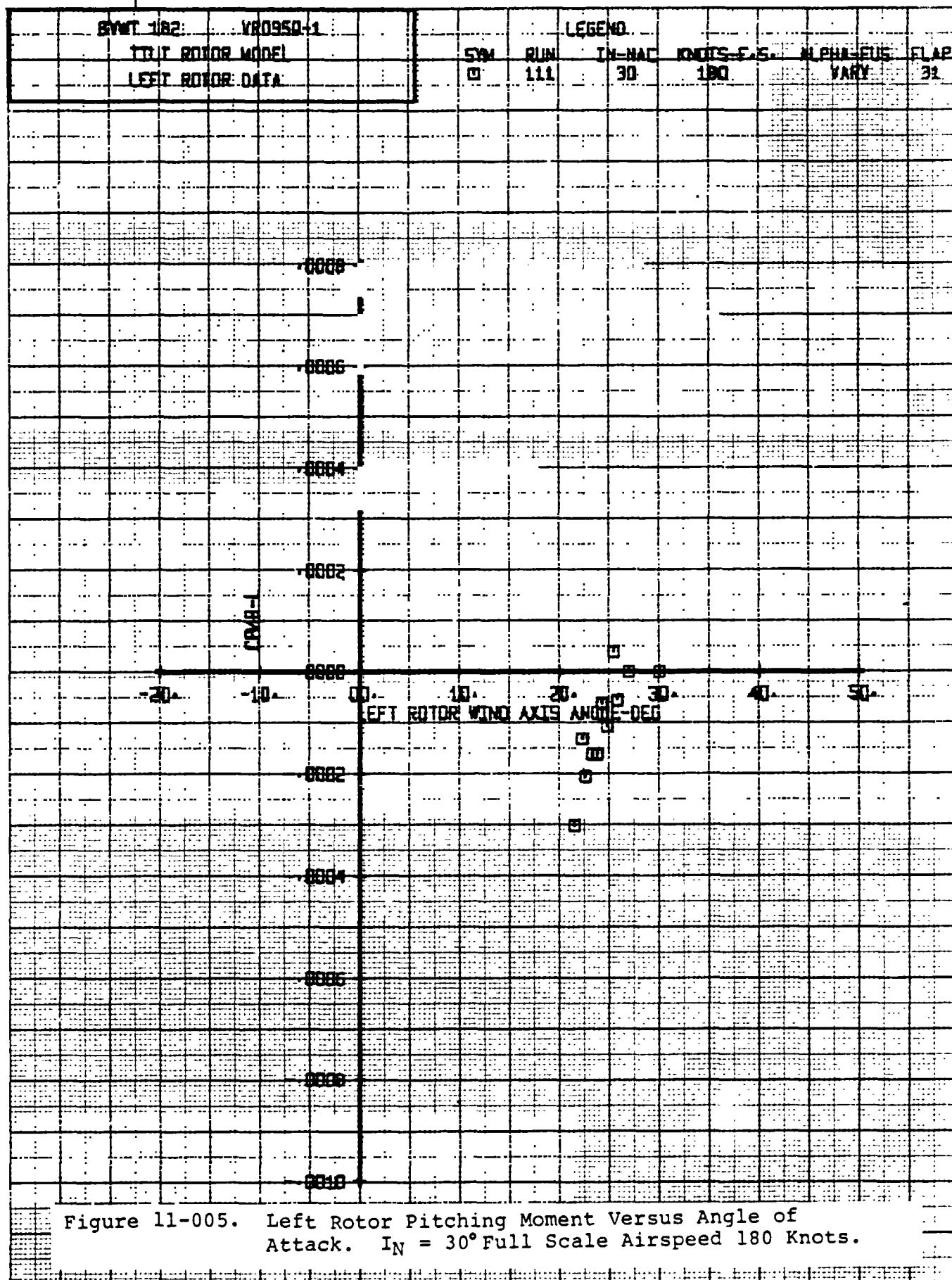
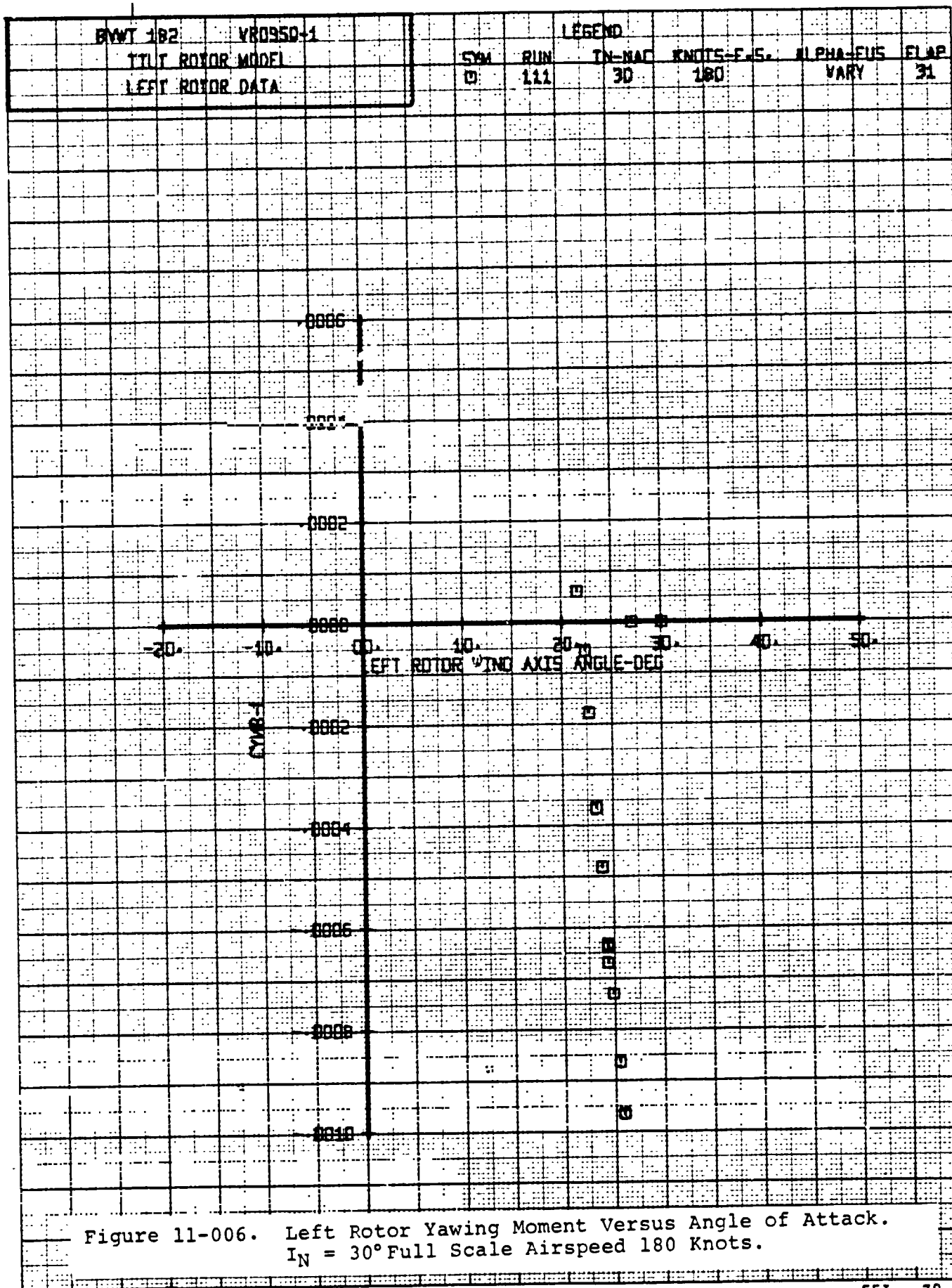


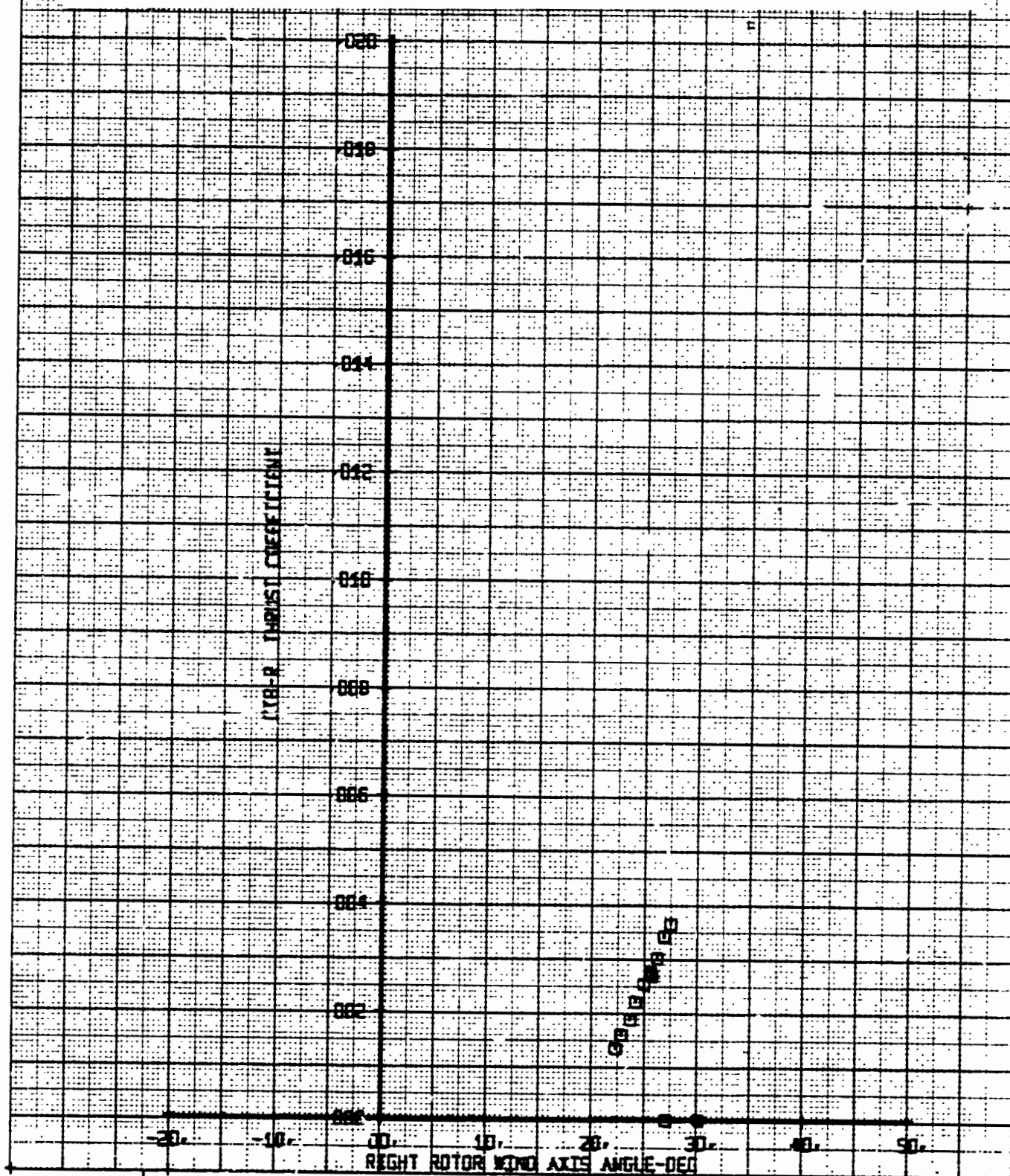
Figure 11-004. Left Rotor Side Force Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





SVWT 182		YR050-1		LEGEND					
RIGHT ROTOR DATA				SYM	RUN	IN-HEAD	KNOTS-F.S.	ALPHA-DEG	FLAP
				0	111	30	180	VARY	31

Figure 11-007. Right Rotor Thrust Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



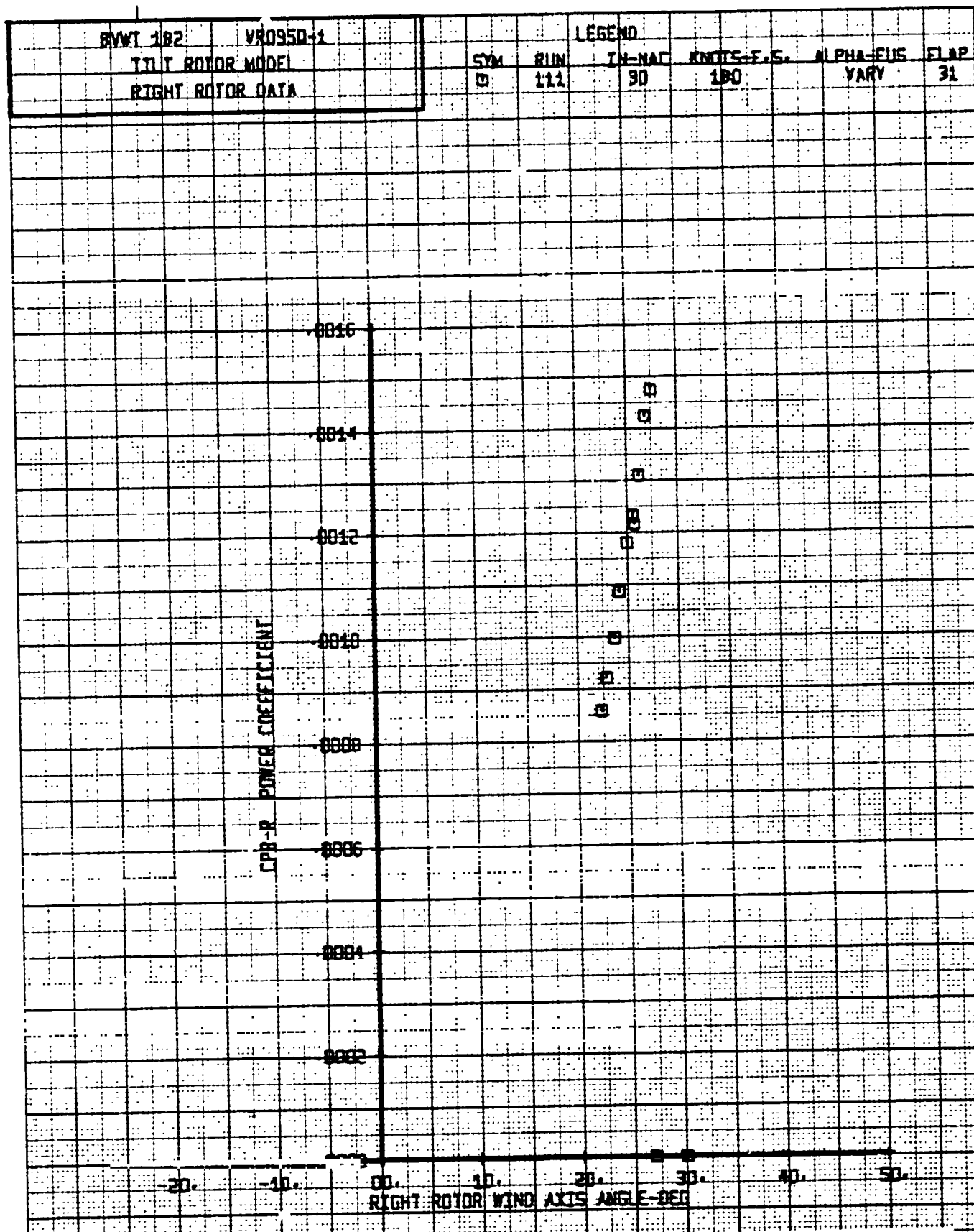
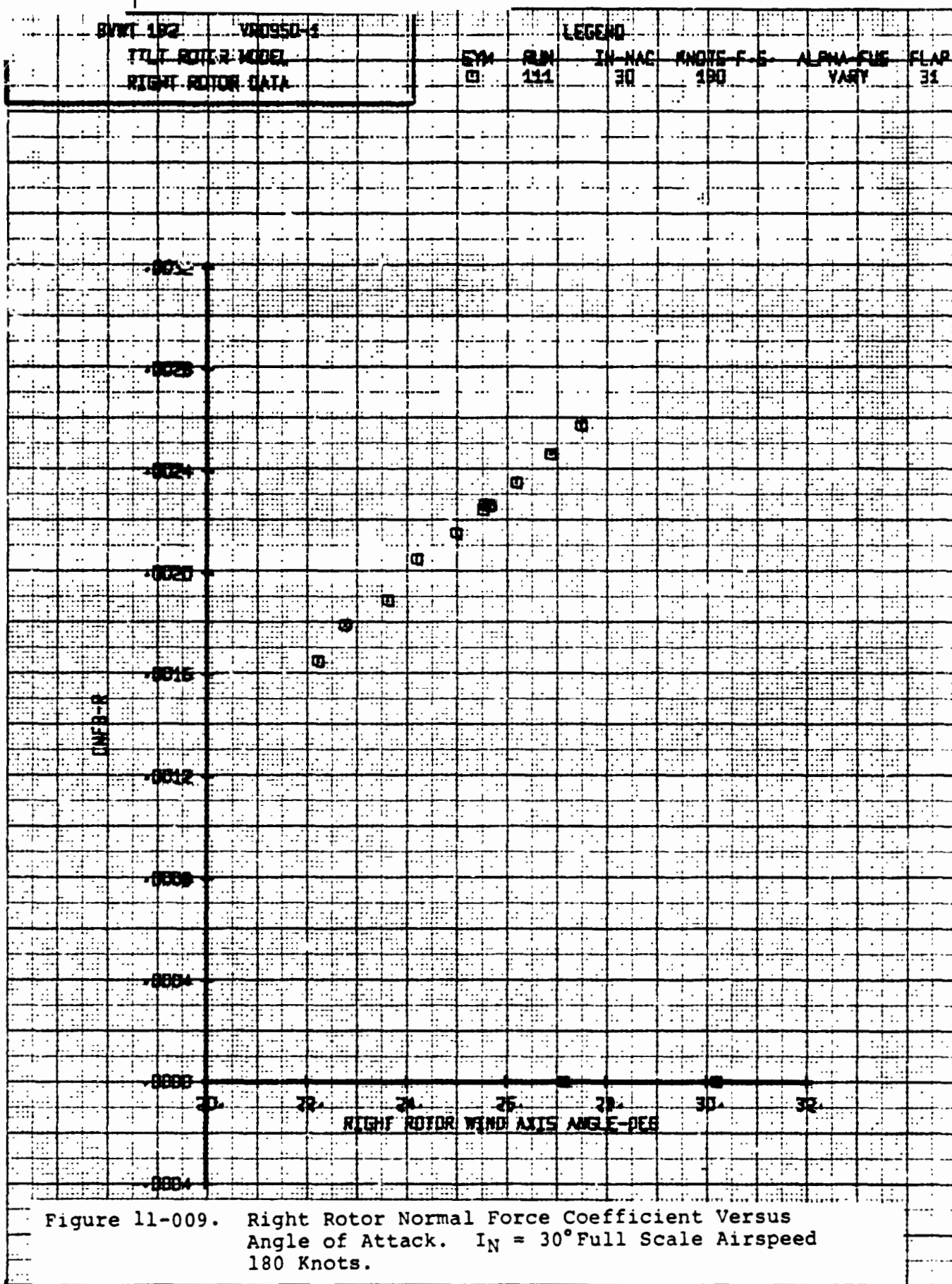
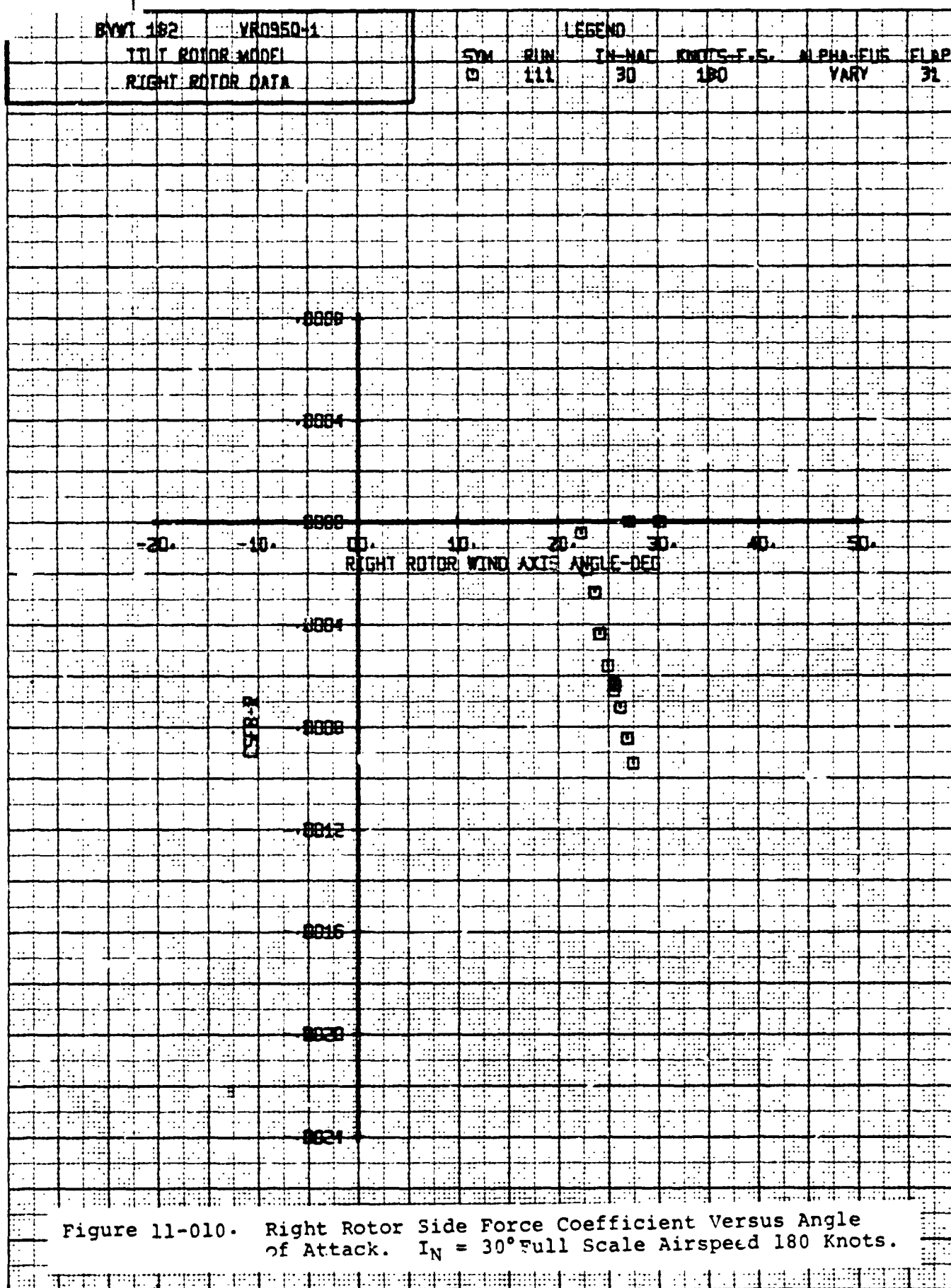


Figure 11-008. Right Rotor Power Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





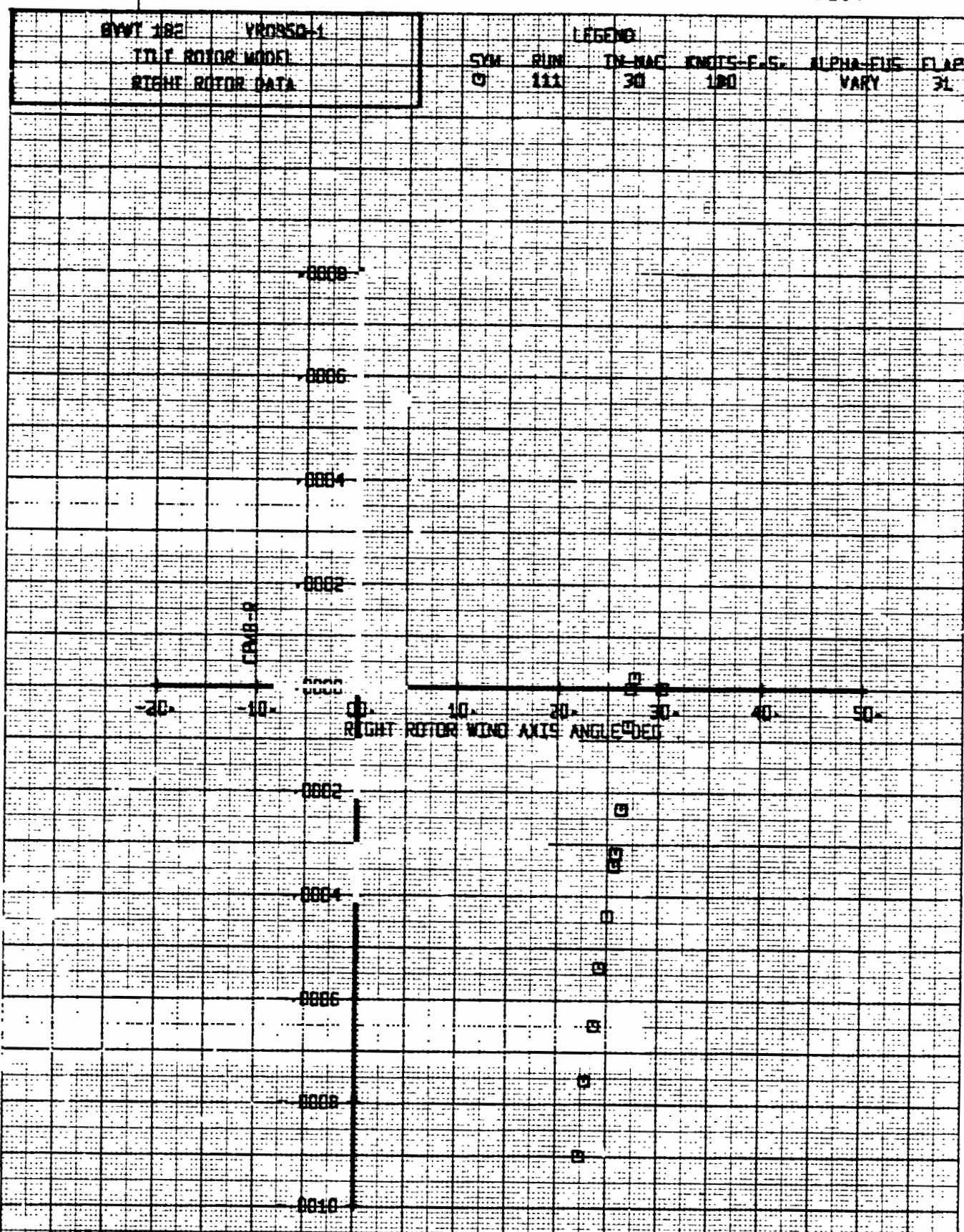
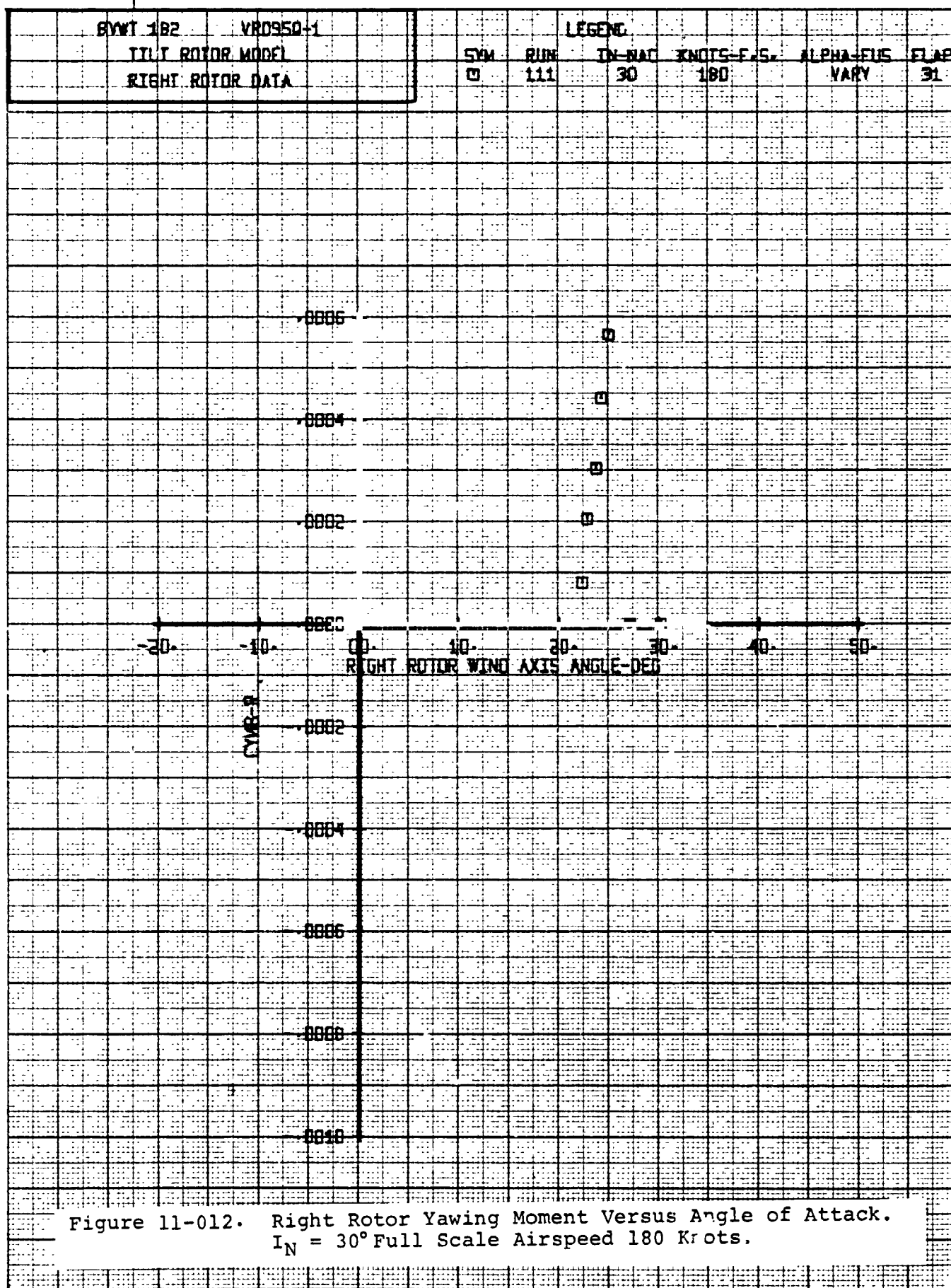
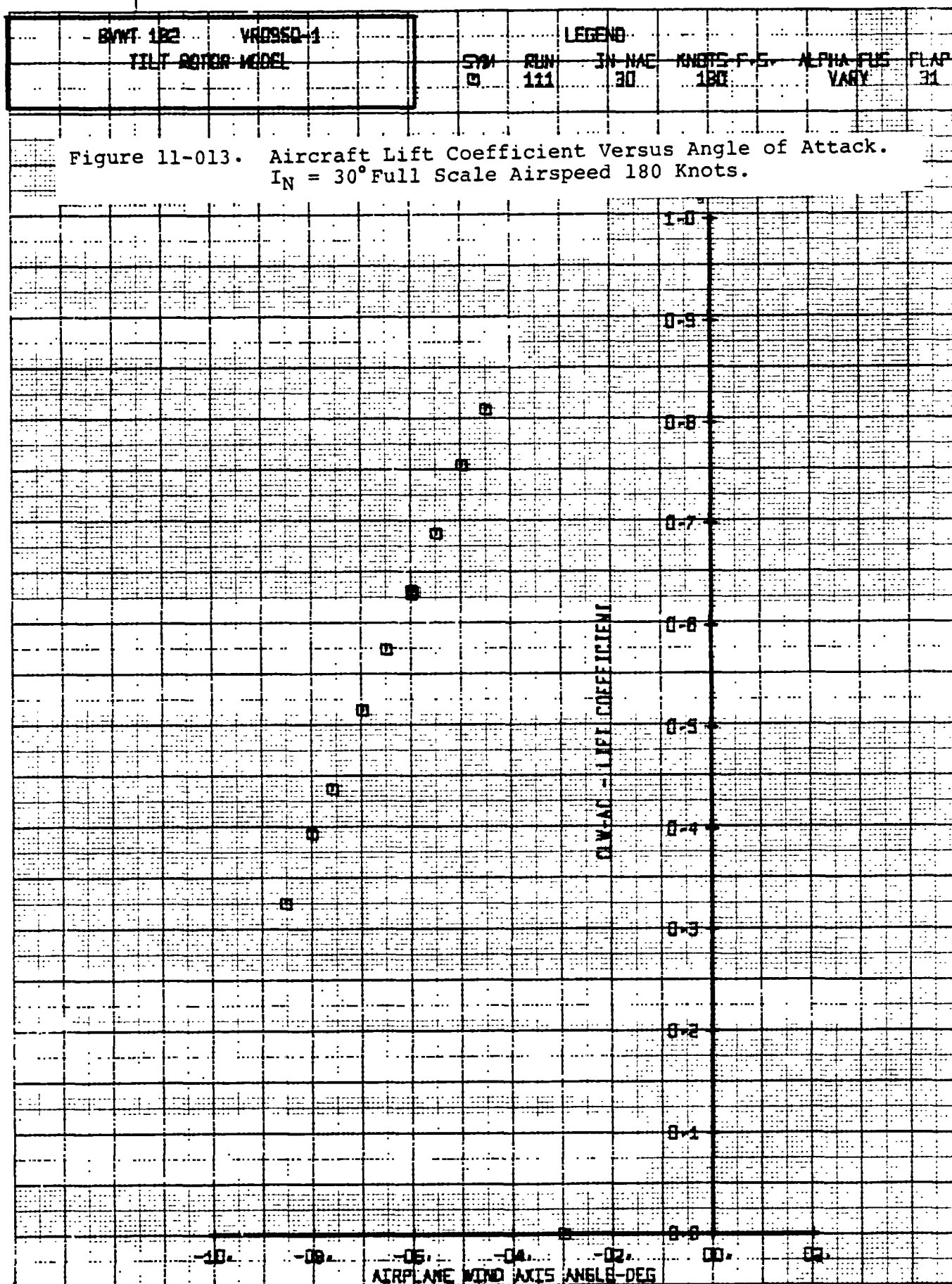


Figure 11-011. Right Rotor Pitching Moment Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





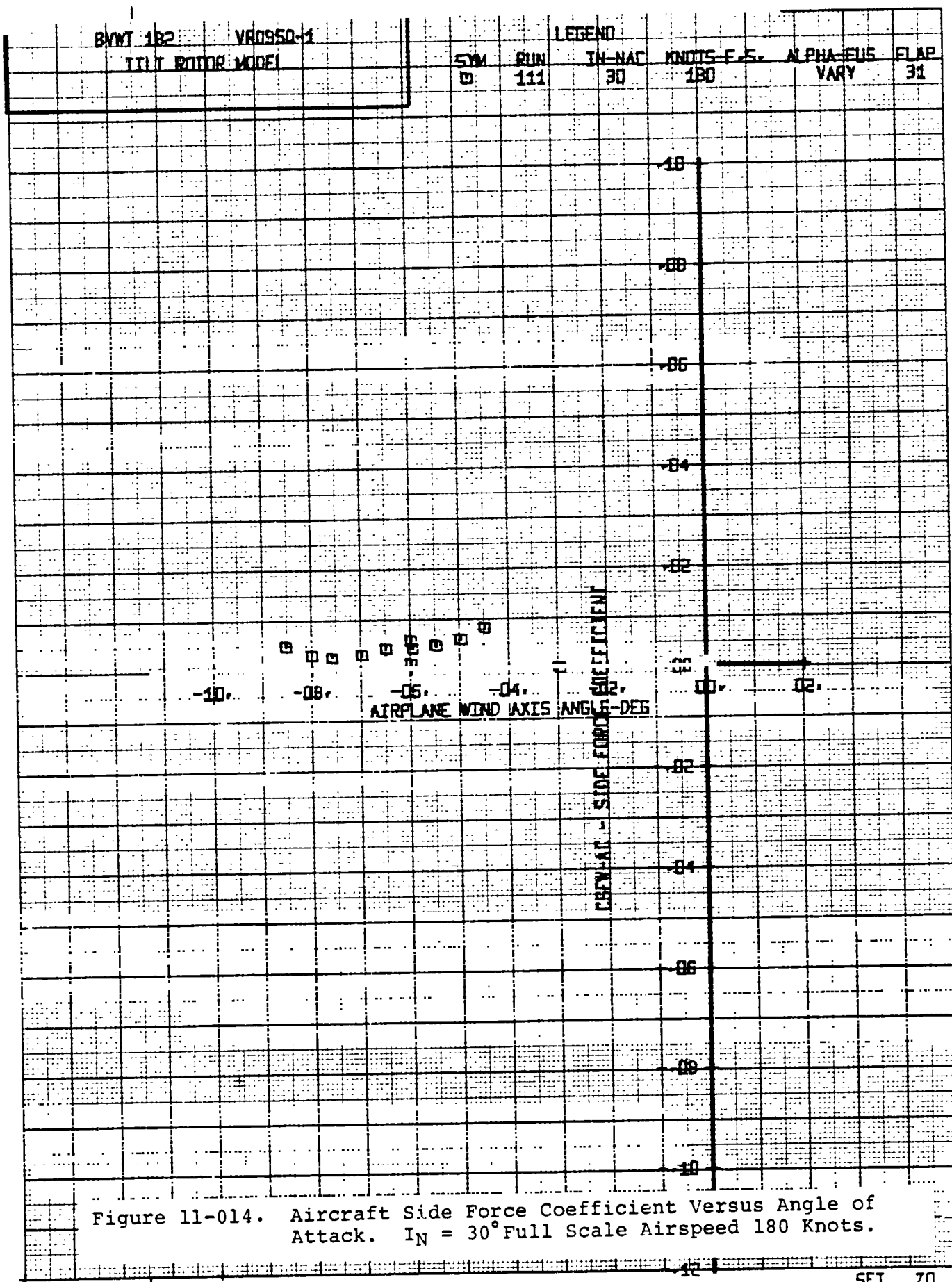
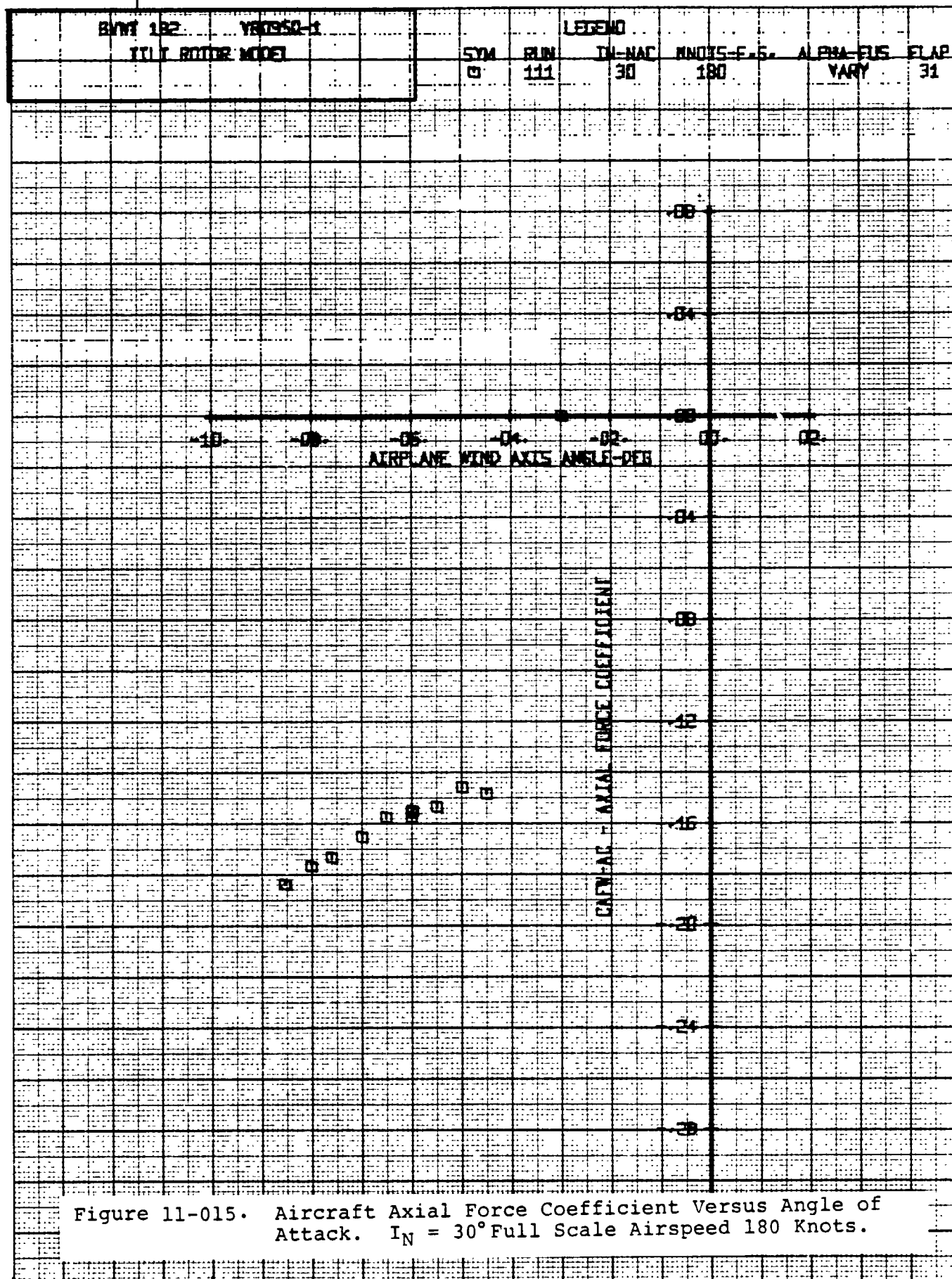
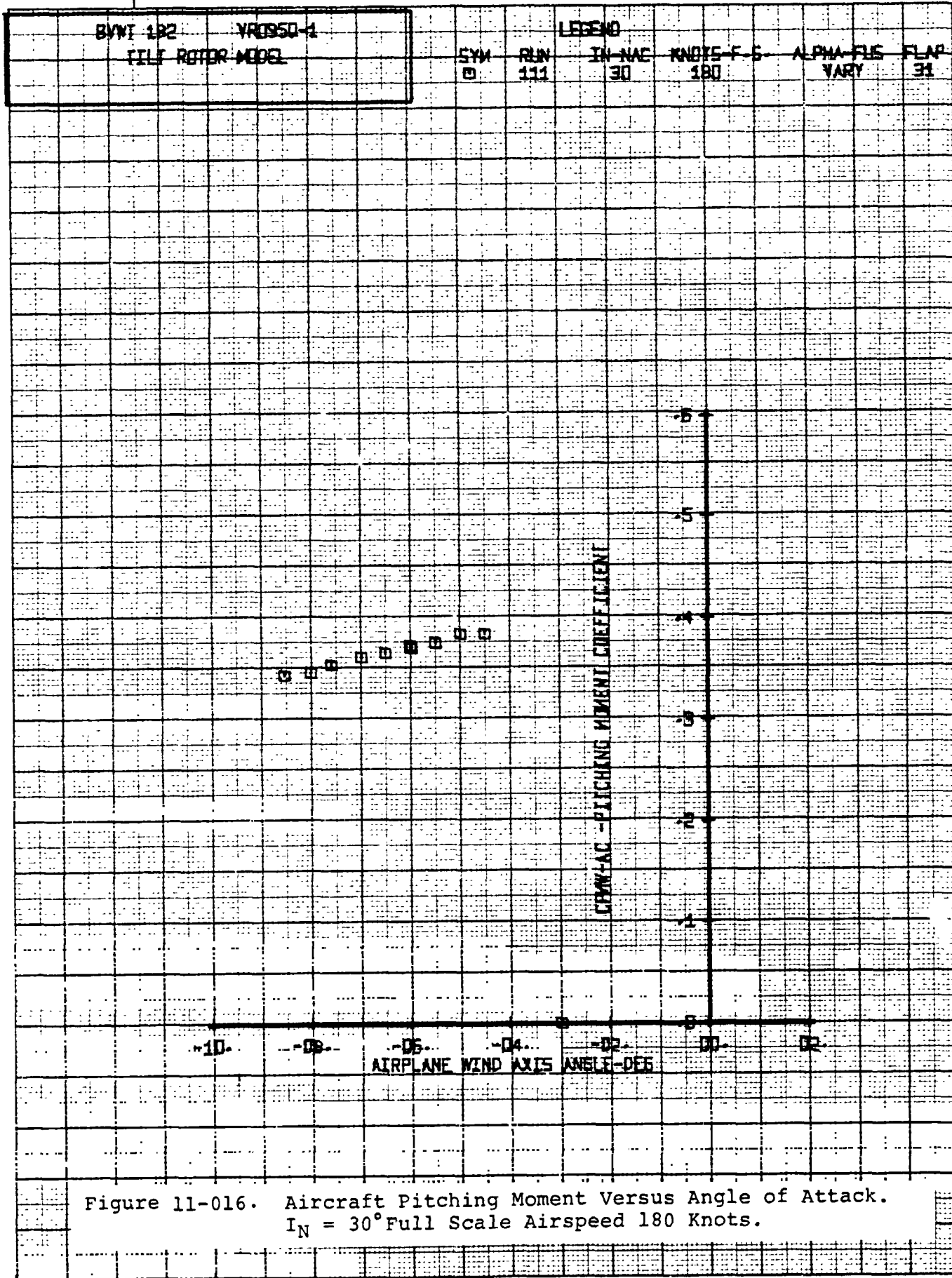
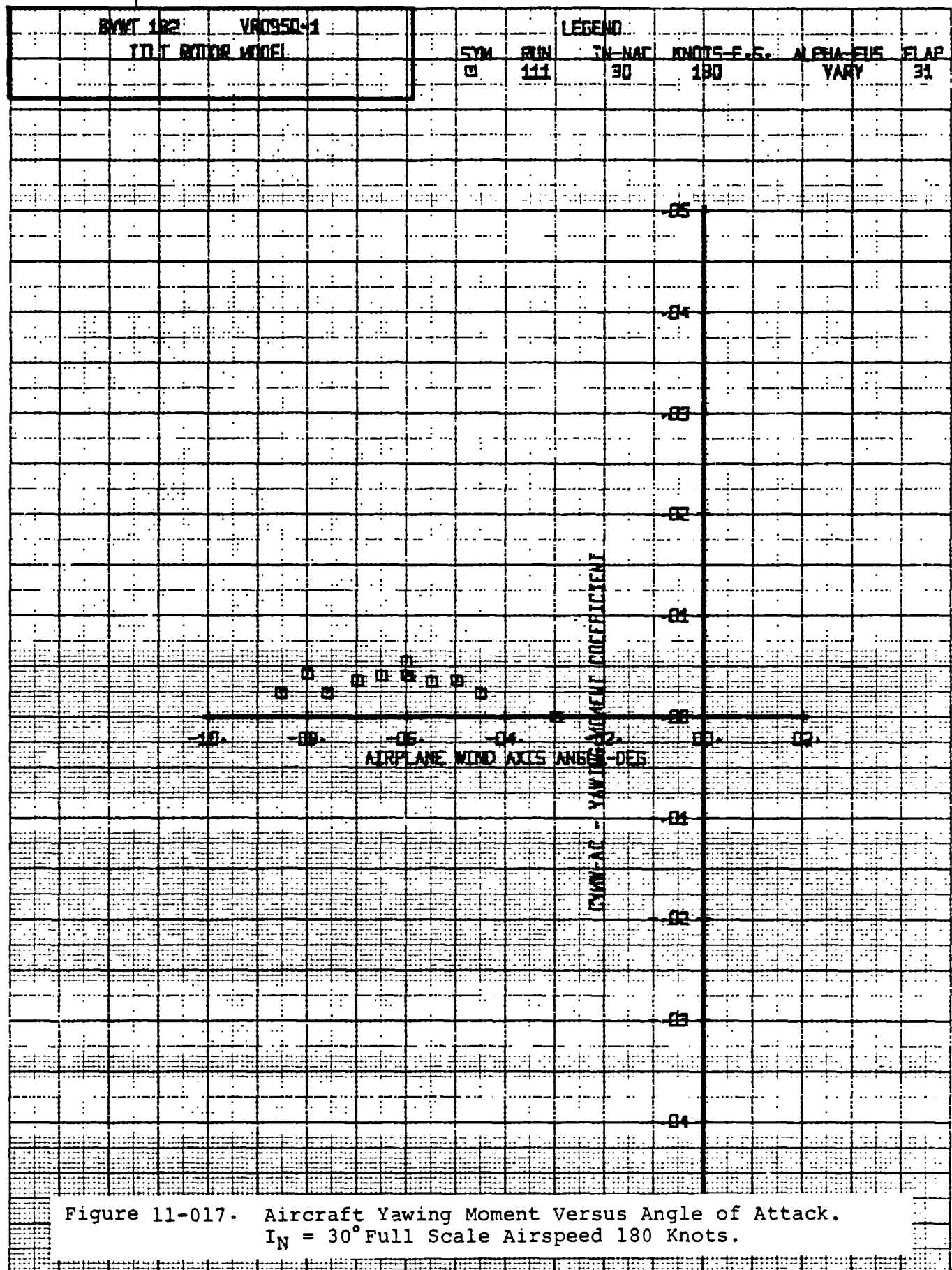
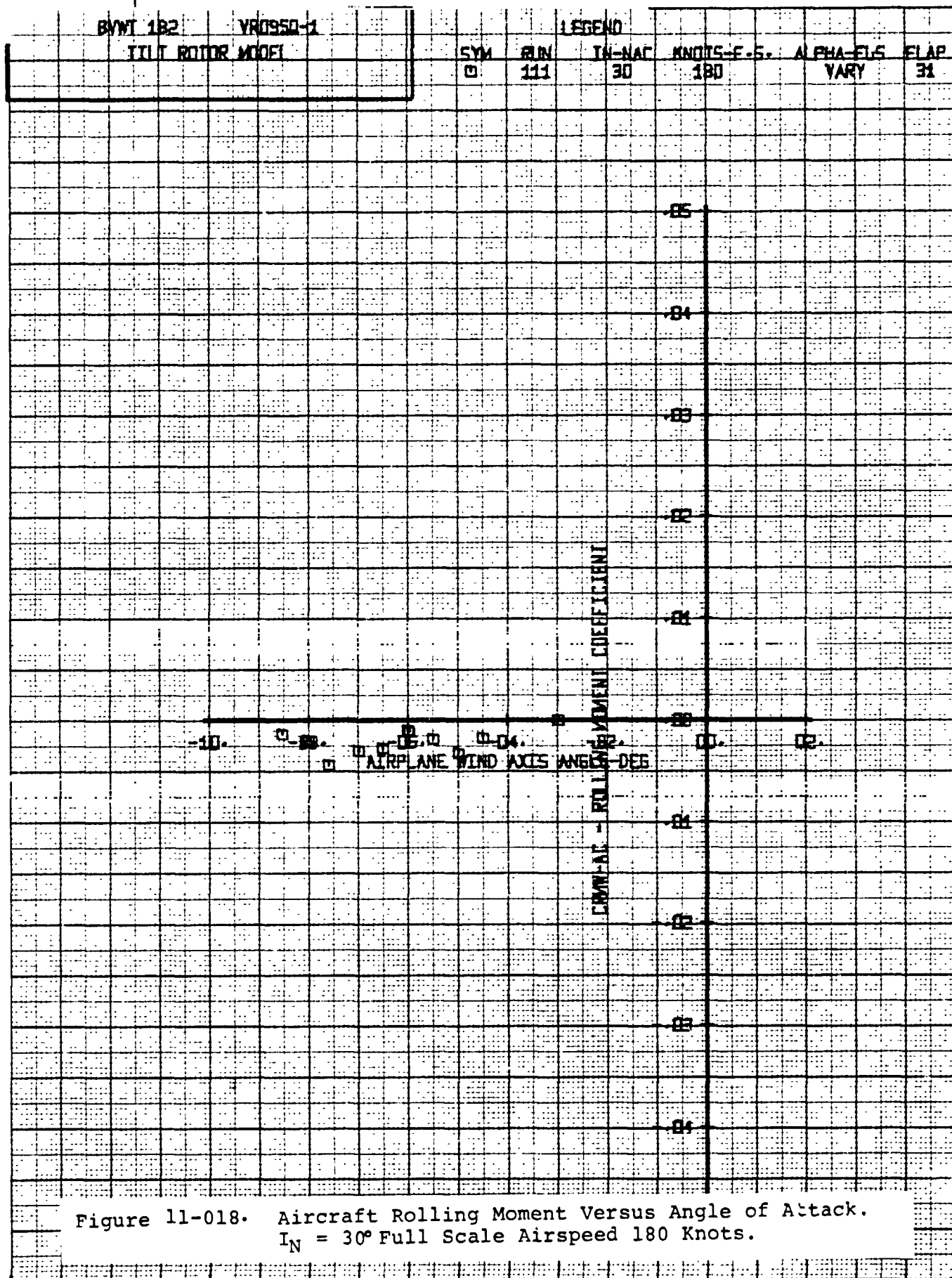


Figure 11-014. Aircraft Side Force Coefficient Versus Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.









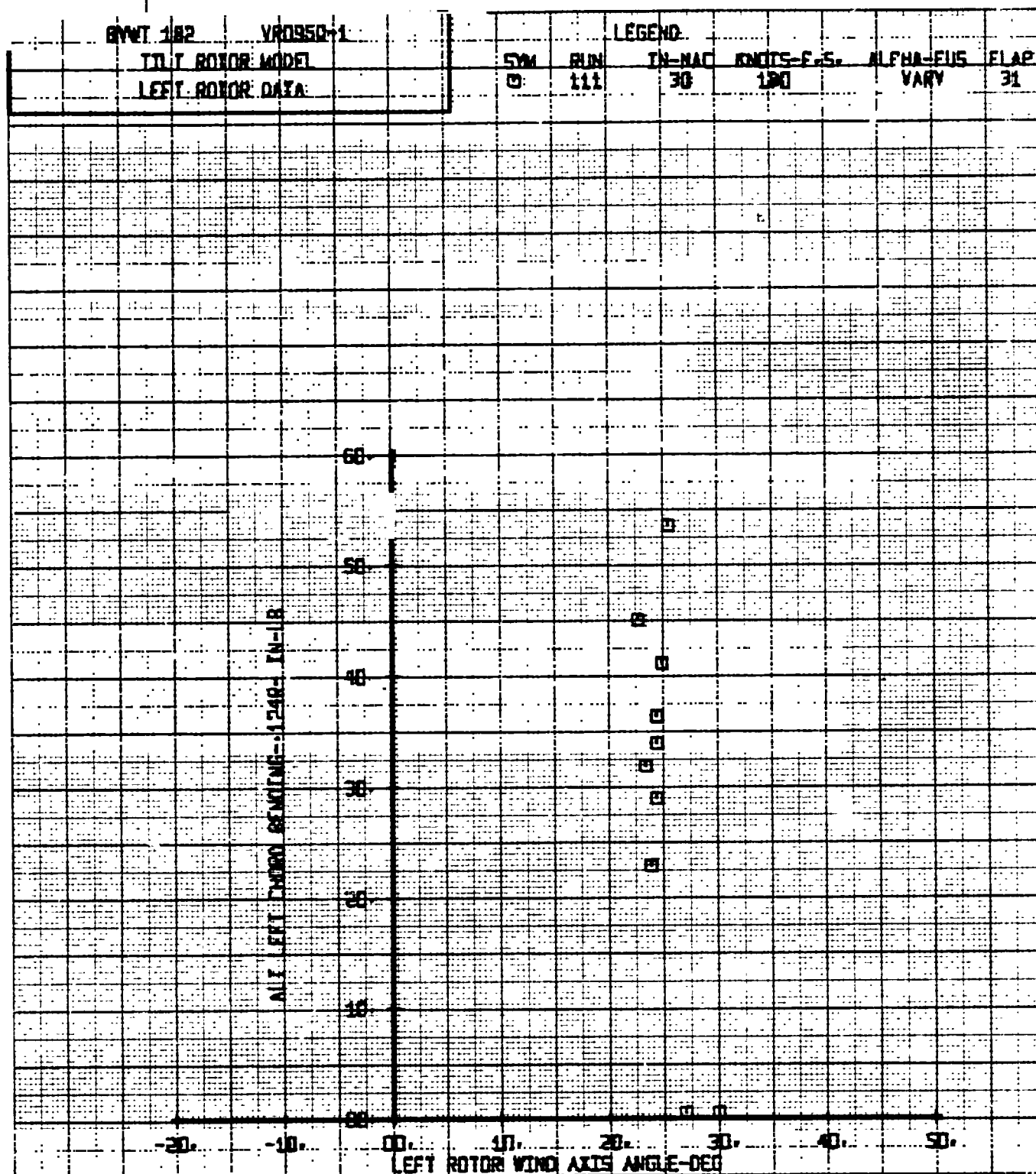
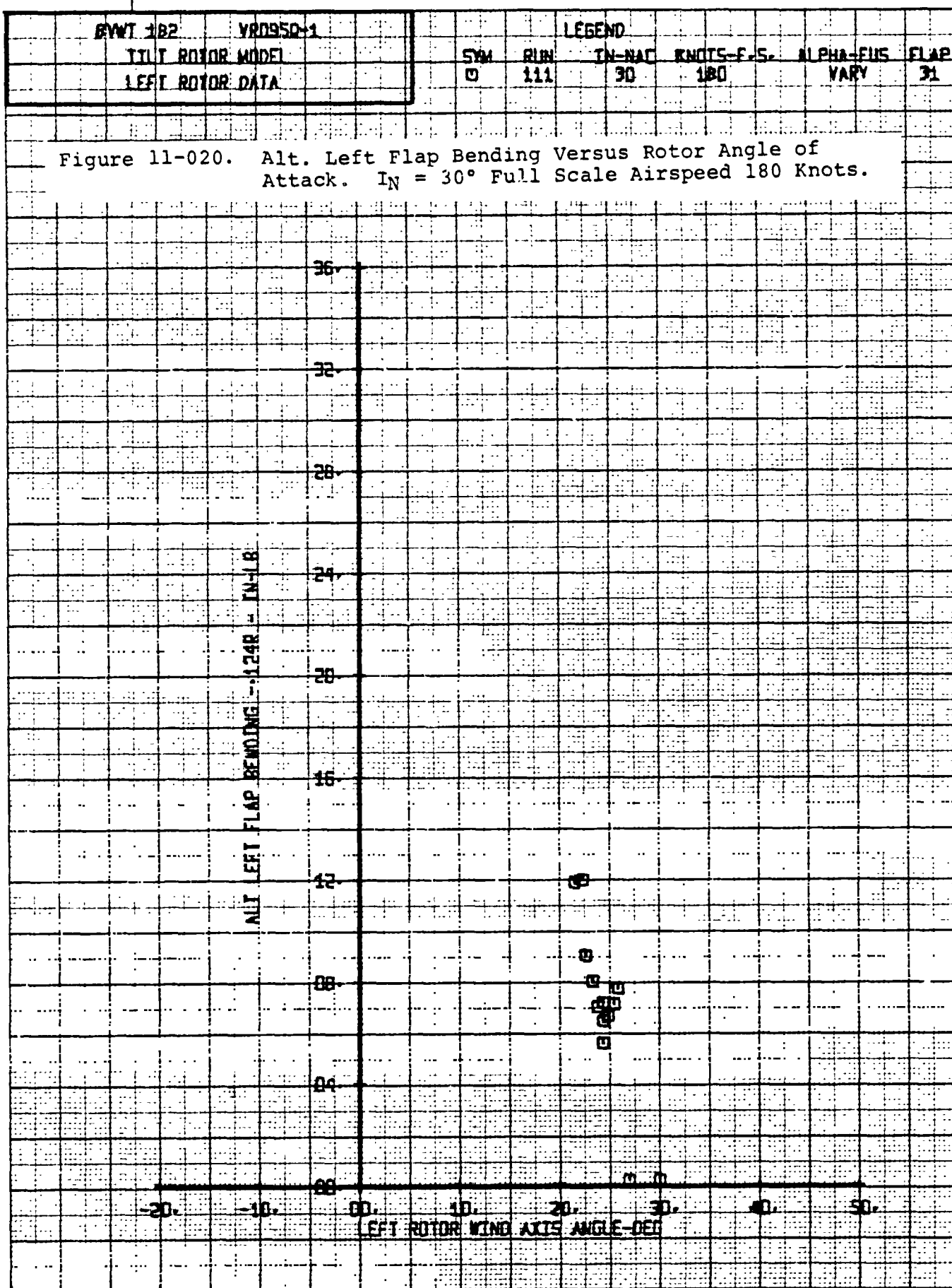
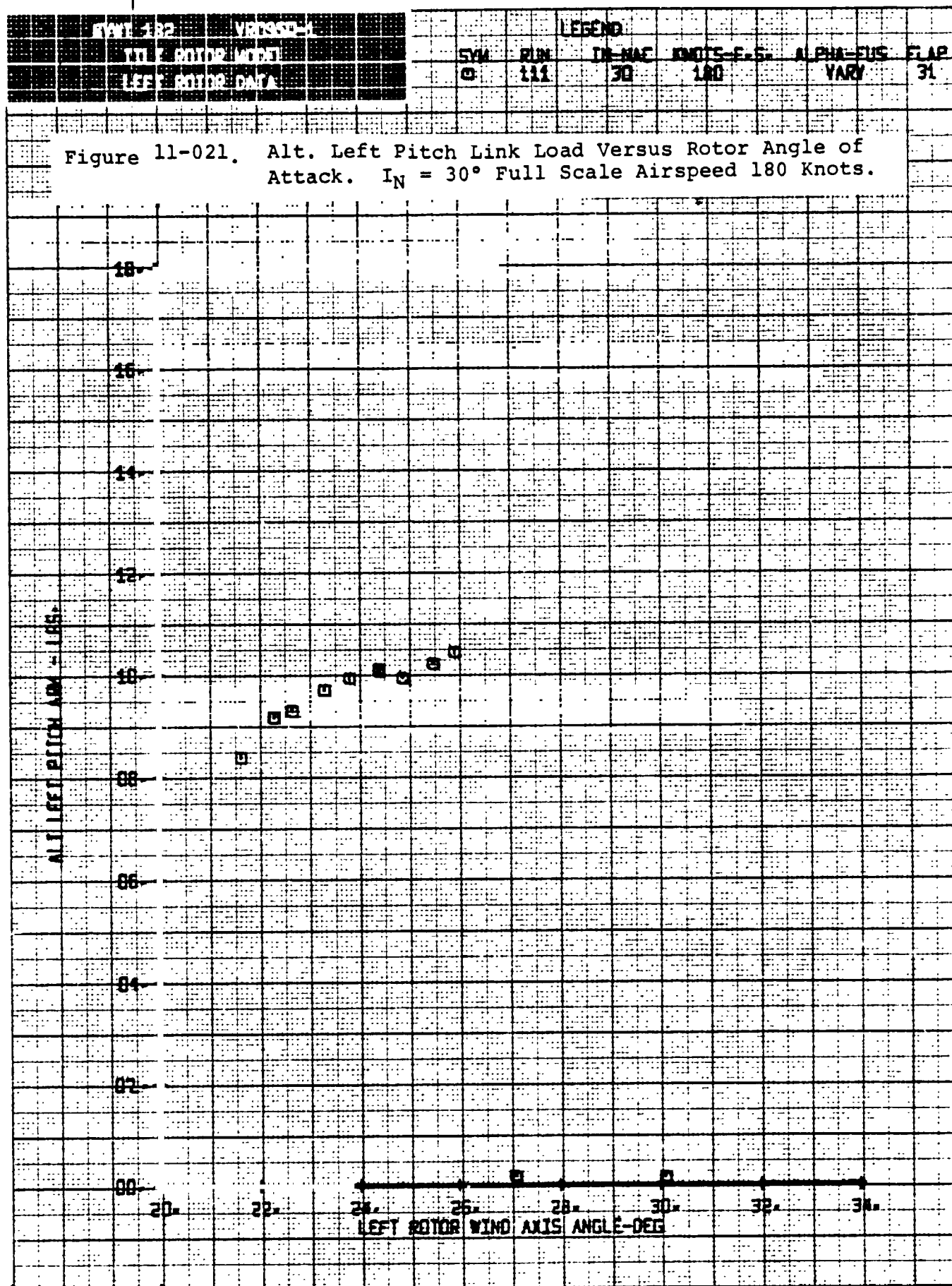


Figure 11-019. Alt. Left Chord Bending Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





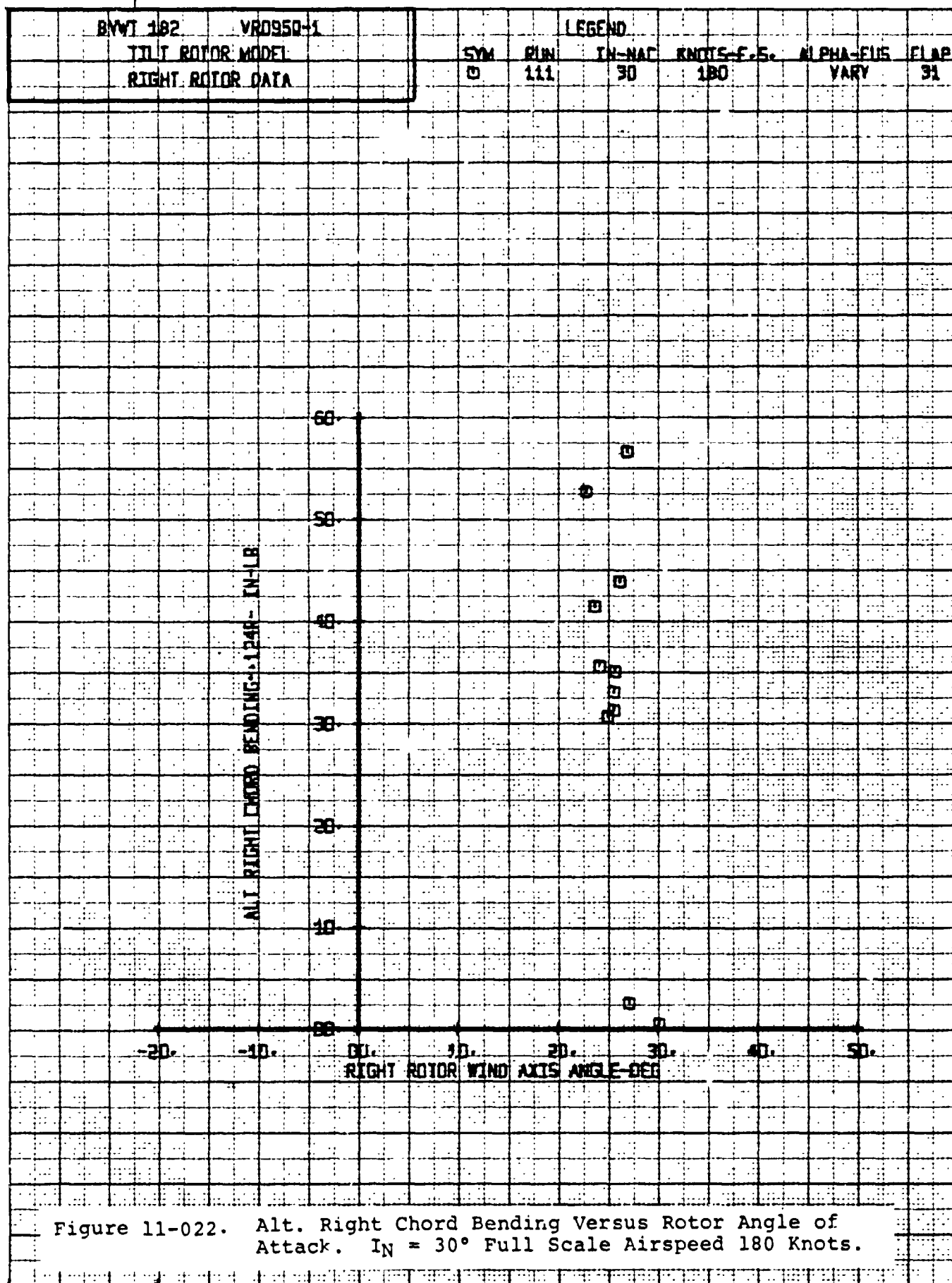
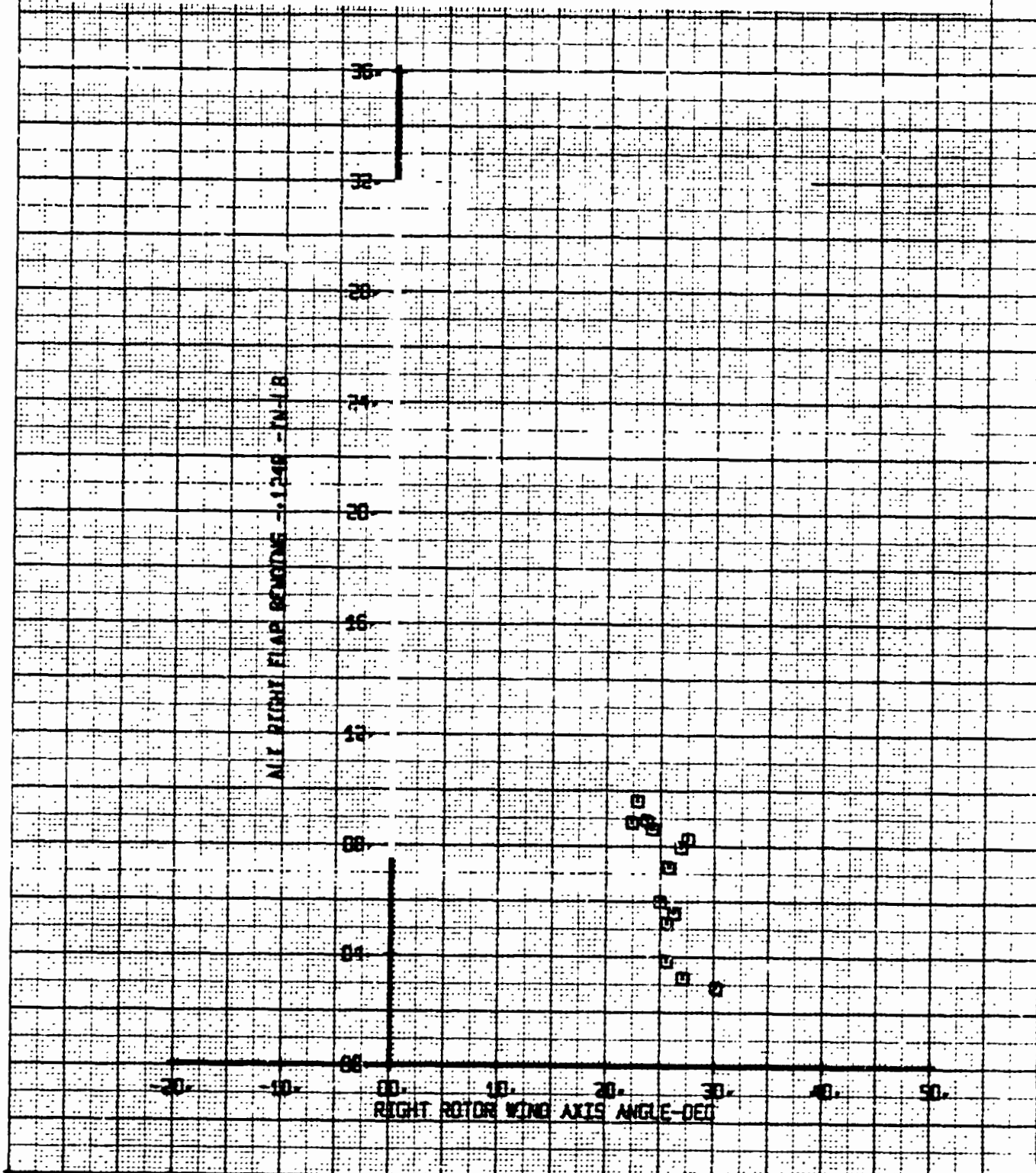


Figure 11-022. Alt. Right Chord Bending Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

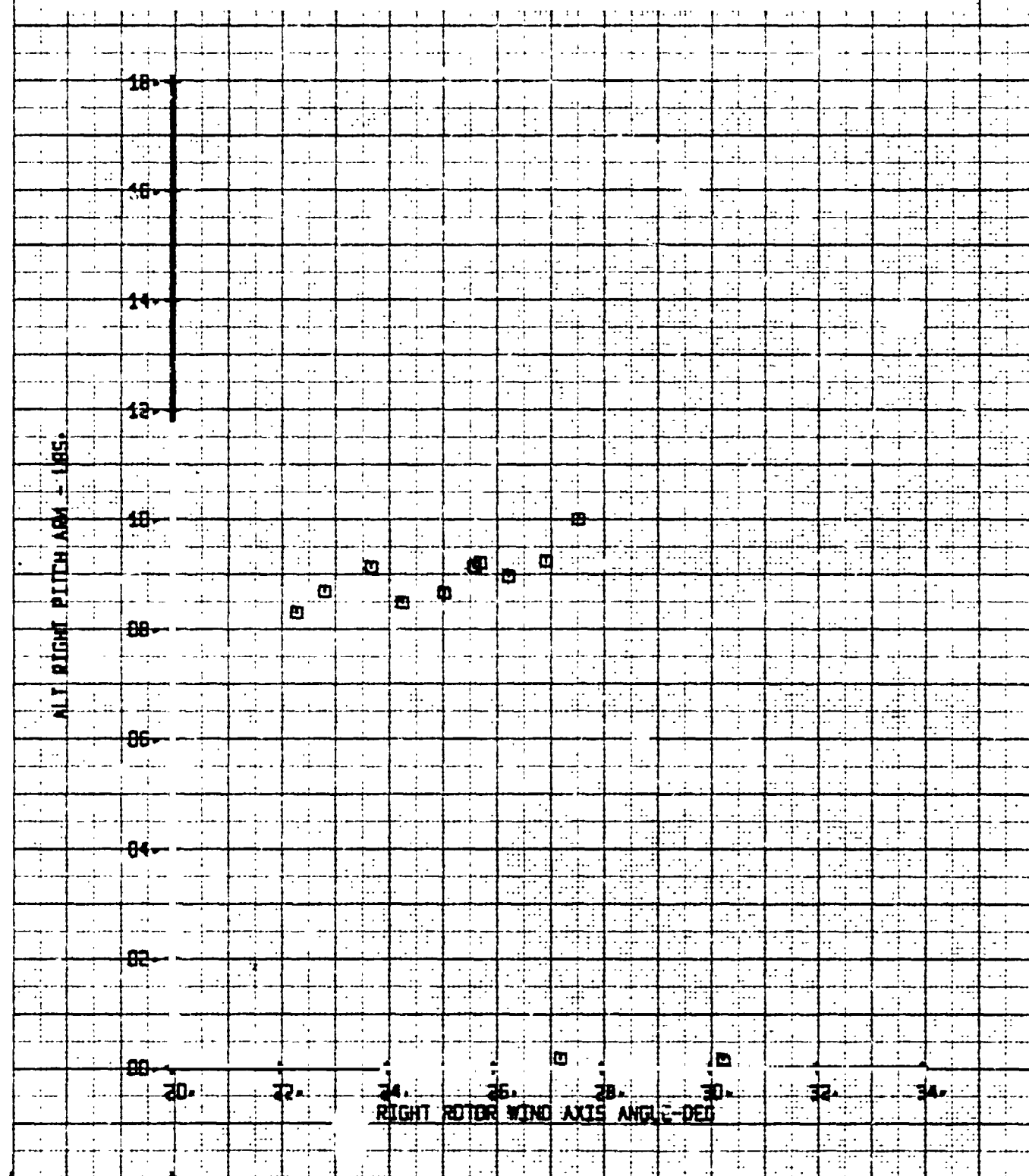
SVWT 182	VR0550-1	LEGEND						
ITL 7 ROTOR MODEL		SYM	FLN	IN-MAE	KNOTS-F.S.	ALPHA-DEG	FLAP	
STEHE ROTOR DATA		0	111	30	180	VARY	31	

Figure 11-023. Alt. Right Flap Bending Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



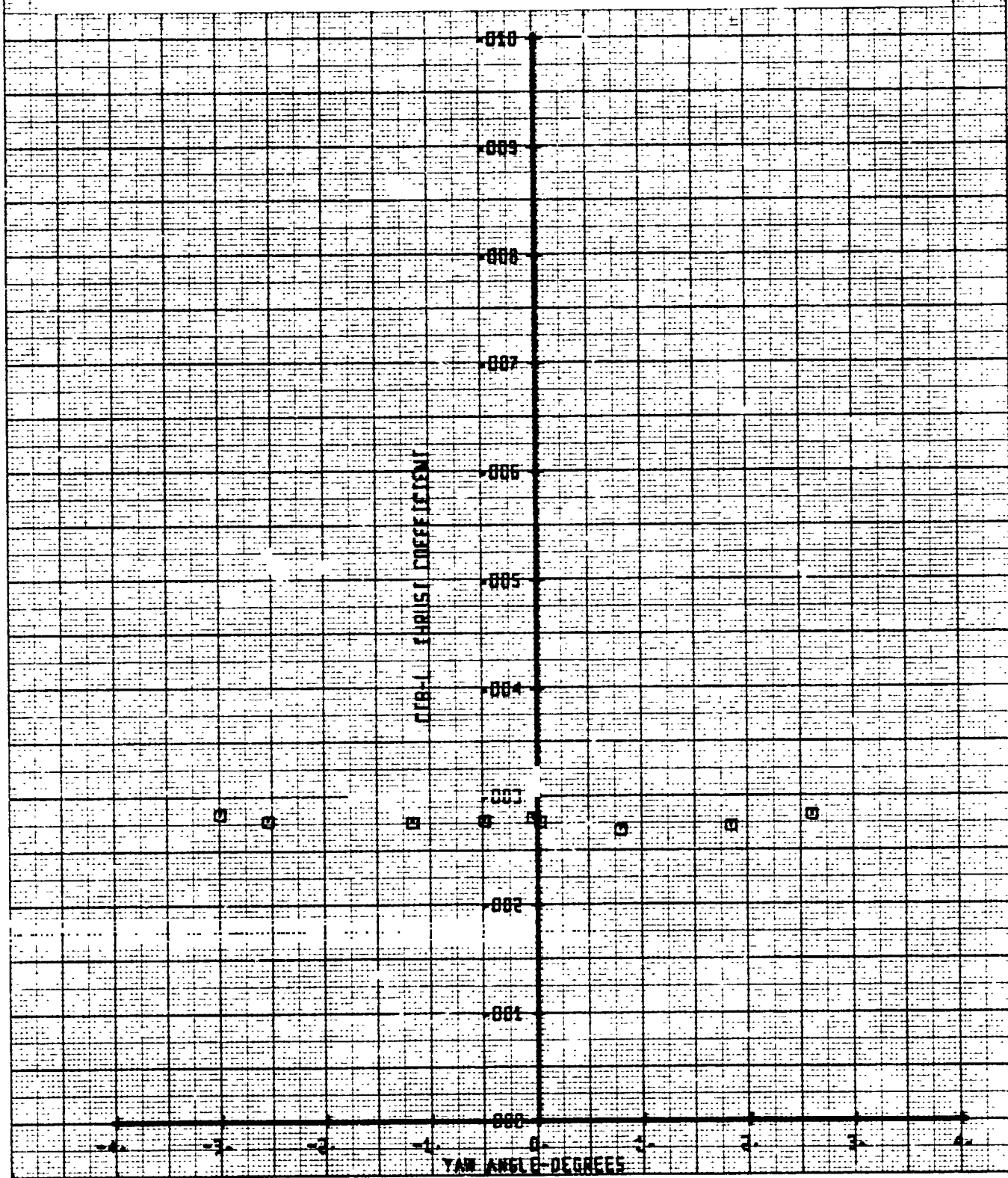
BYWT 182	VRD 950-1	LEGEND				
TIT Rotor Model		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	111	30	180	VARY
						FLAP 31

Figure 11-024. Alt. Right Pitch Link Load Versus Rotor Angle of Attack. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



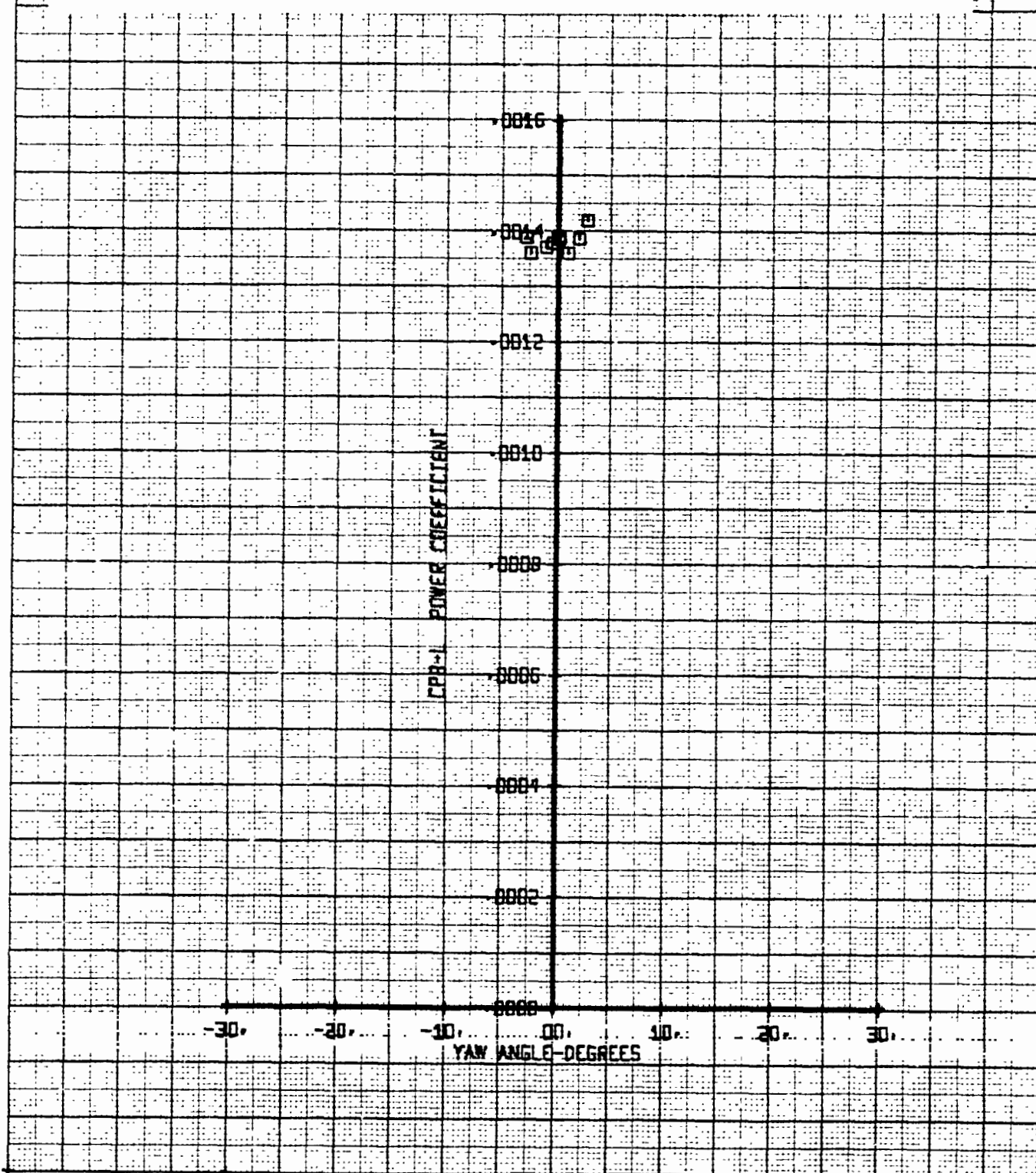
BVWT 182	VR0950-1	LEGEND				
T111 ROTOR MODEL		SWA	RUN	IN-NAE	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	112	30	180	-6
				FLAP		31

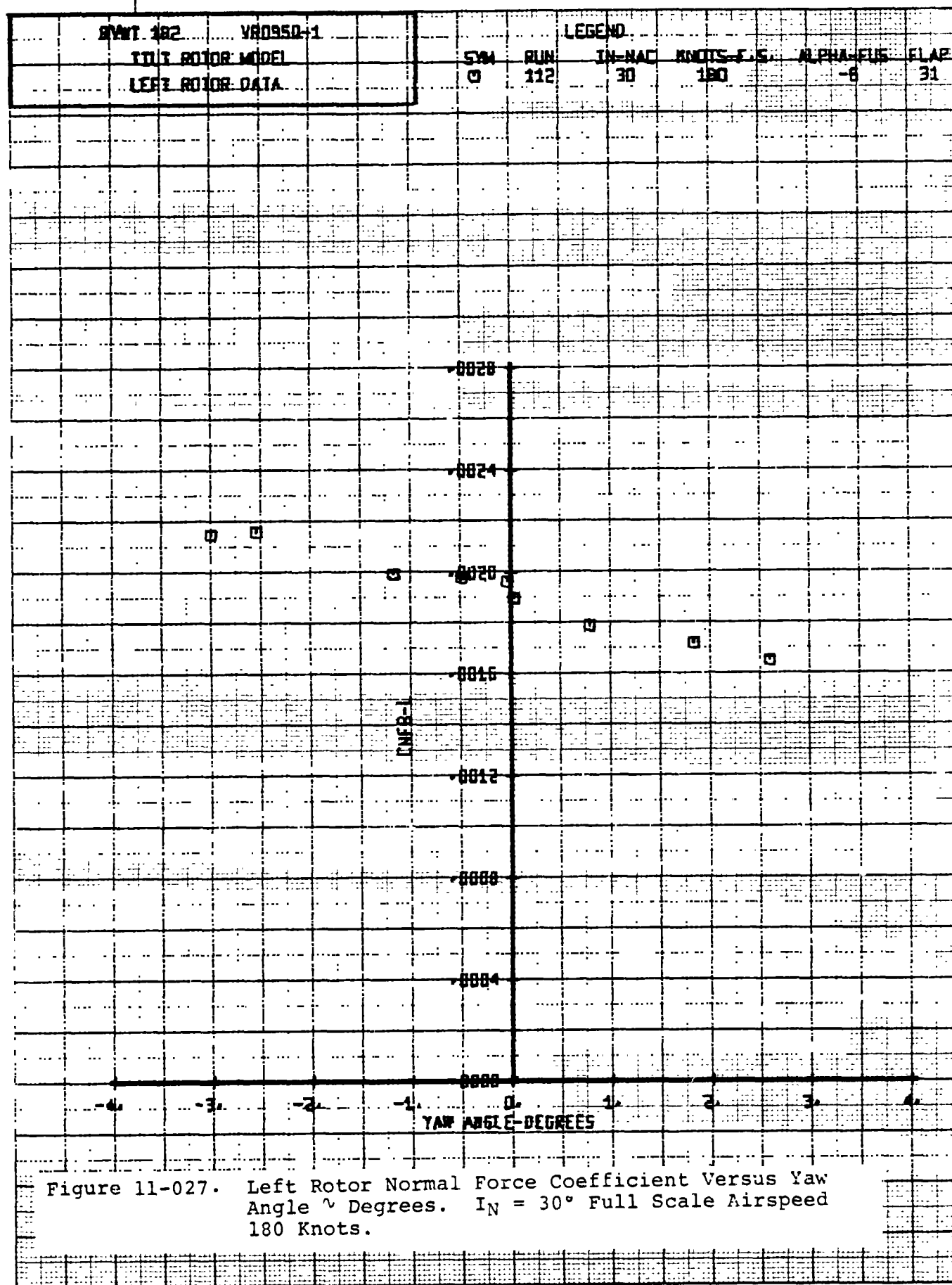
Figure 11-025. Left Rotor Thrust Coefficient Versus Yaw Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND				
YTUT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	112	30	180	-6
						FLAP 31

Figure 11-026. Left Rotor Power Coefficient Versus Yaw Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





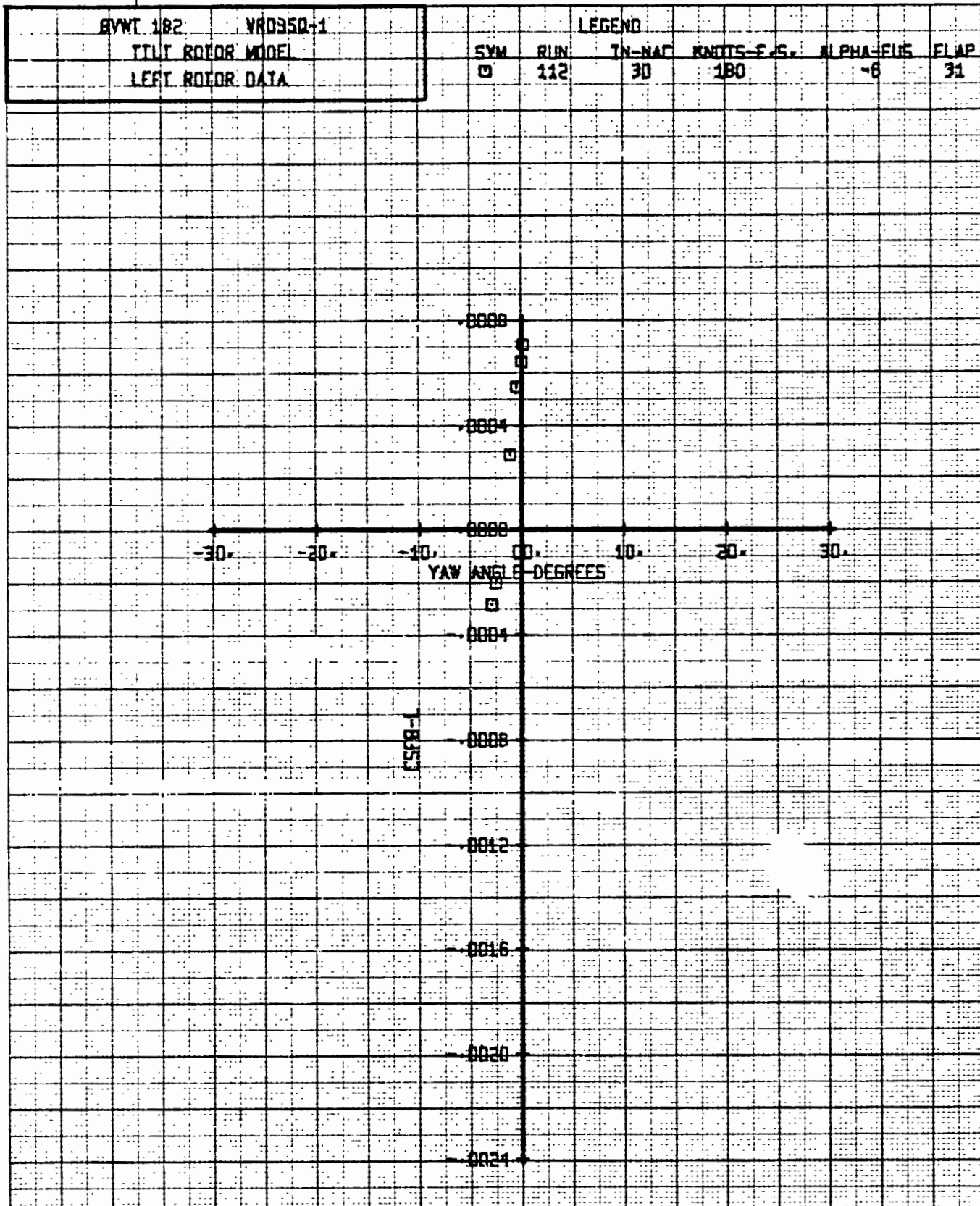


Figure 11-028. Left Rotor Side Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

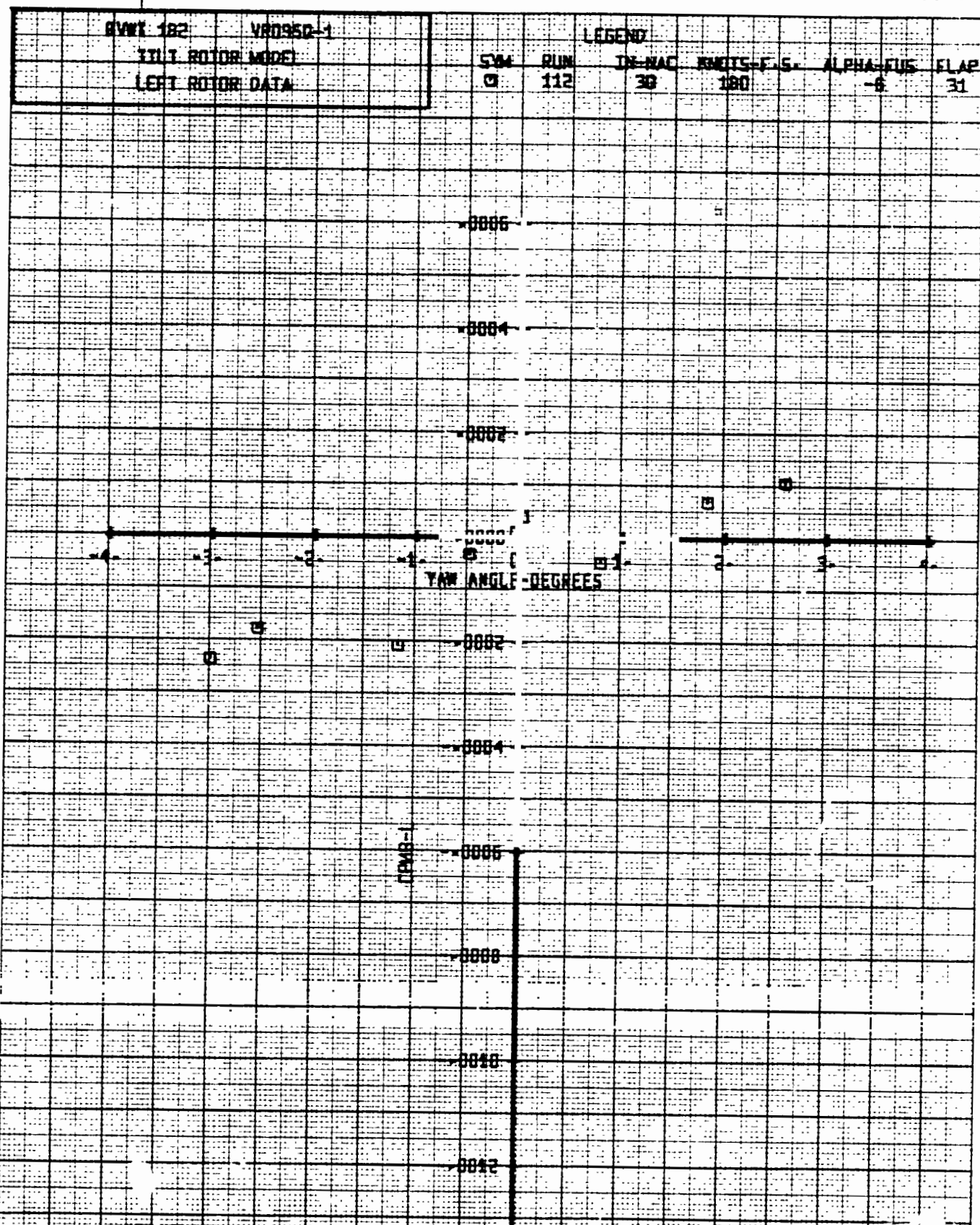
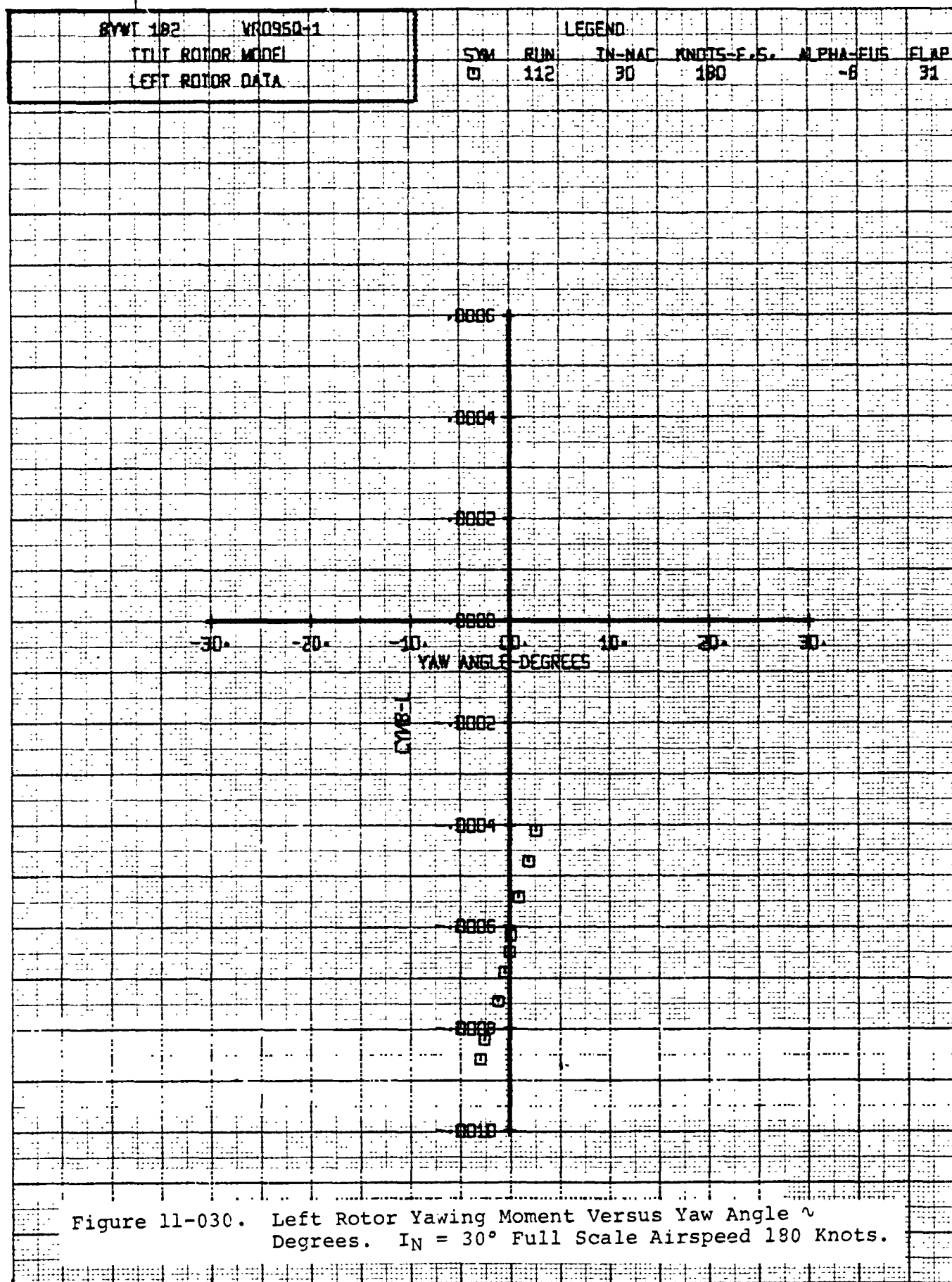
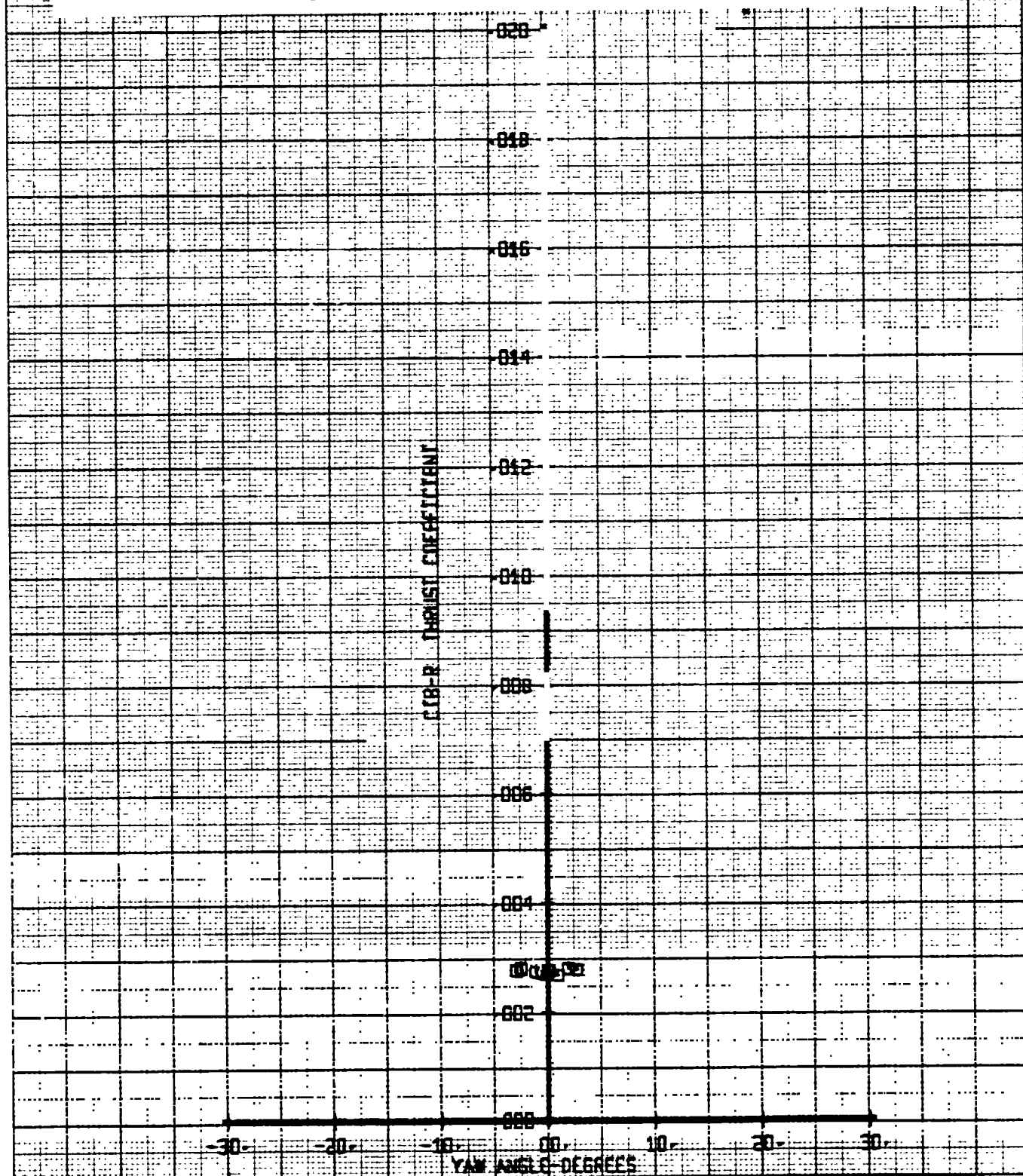


Figure 11-029. Left Rotor Pitching Moment Versus Yaw Angle α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



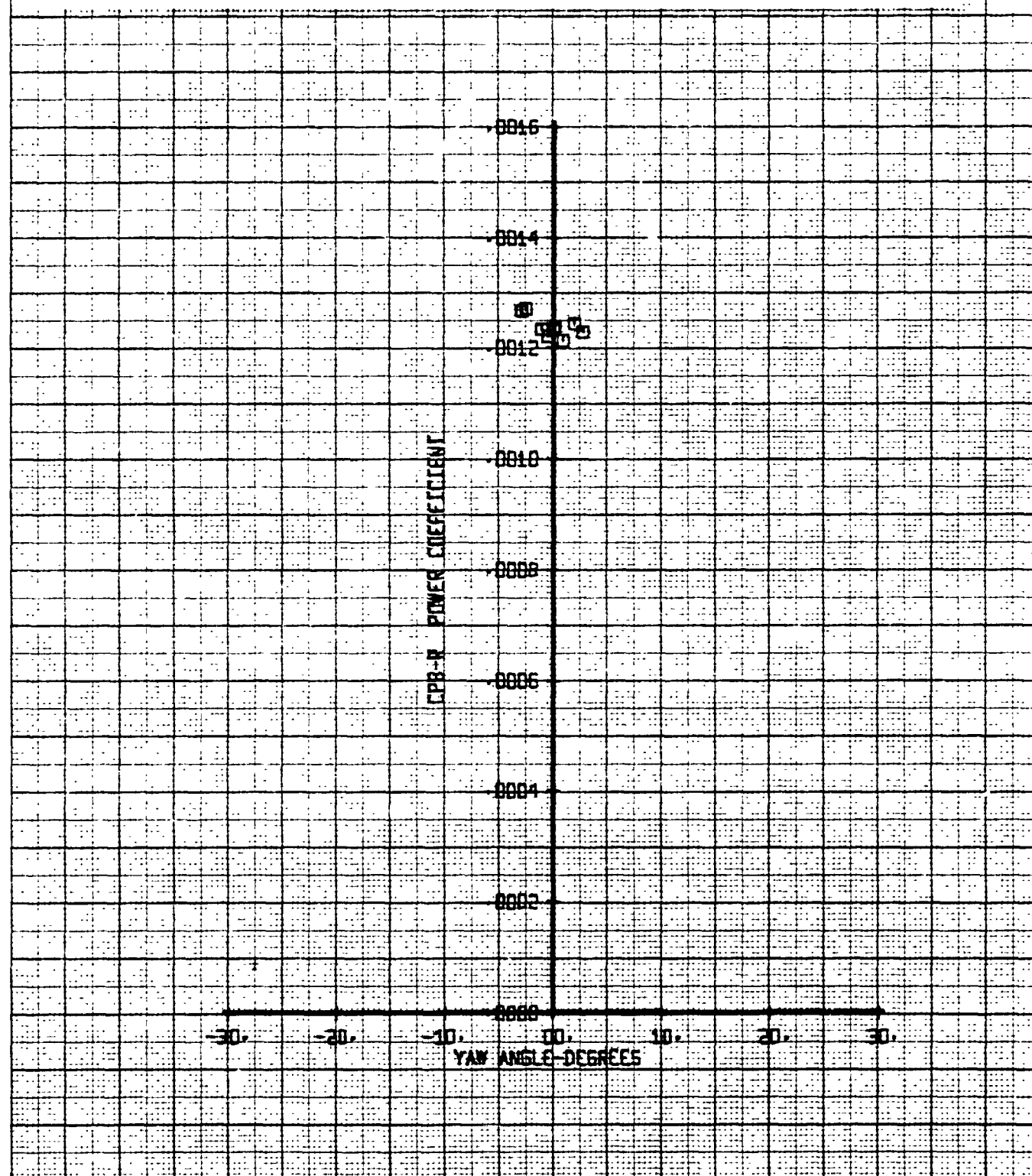
BVWT 182	VR0950-1	SYN	RUN	IN-MAC	KNOTS-E.S.	ALPHA-FLG	FLAP
LEFT ROTOR MODEL		0	112	30	180	-6	31
RIGHT ROTOR DATA							

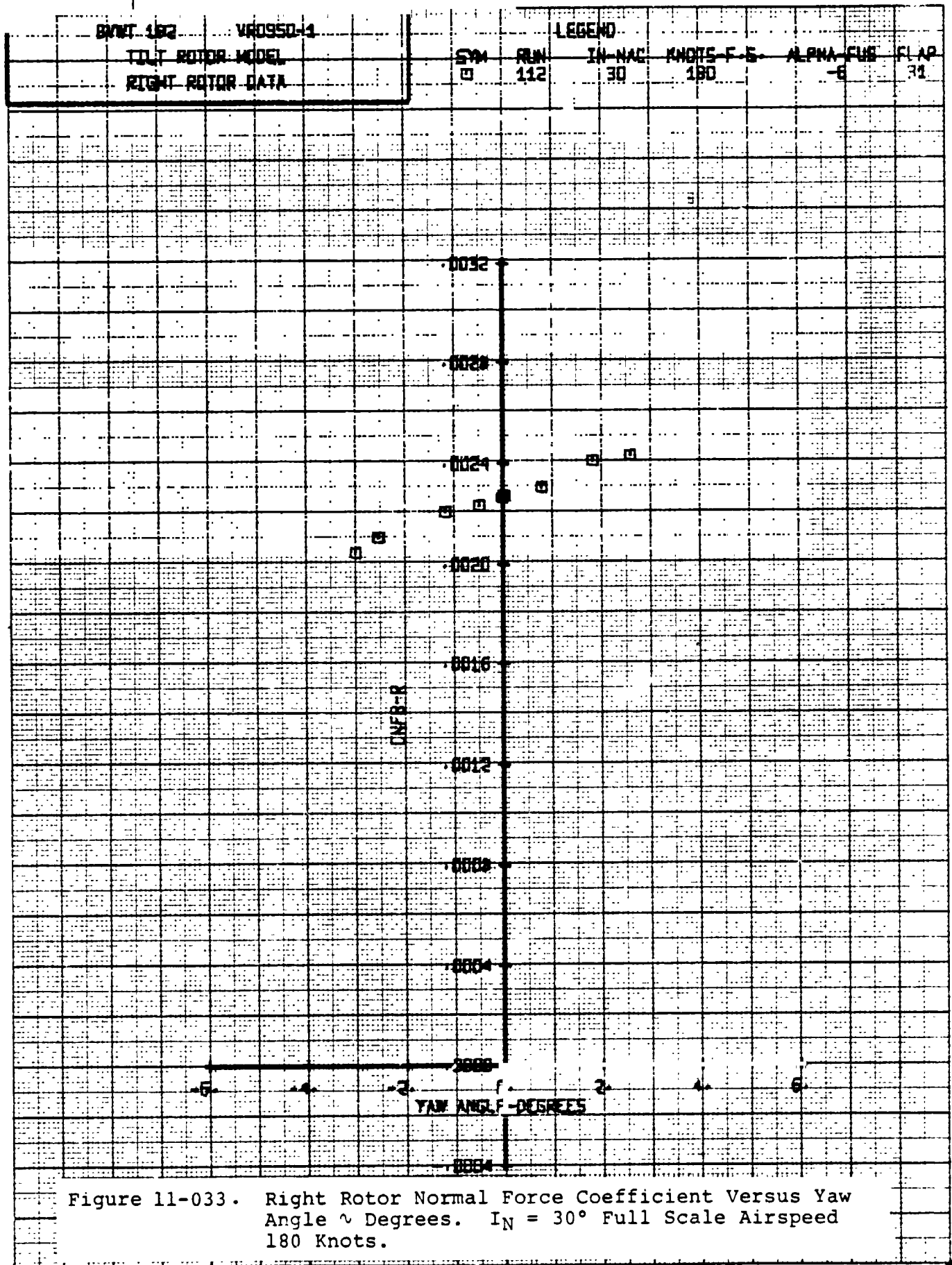
Figure 11-031. Right Rotor Thrust Coefficient Versus Yaw Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAG	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		0	112	30	180	-6
						31

Figure 11-032. Right Rotor Power Coefficient Versus Yaw Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





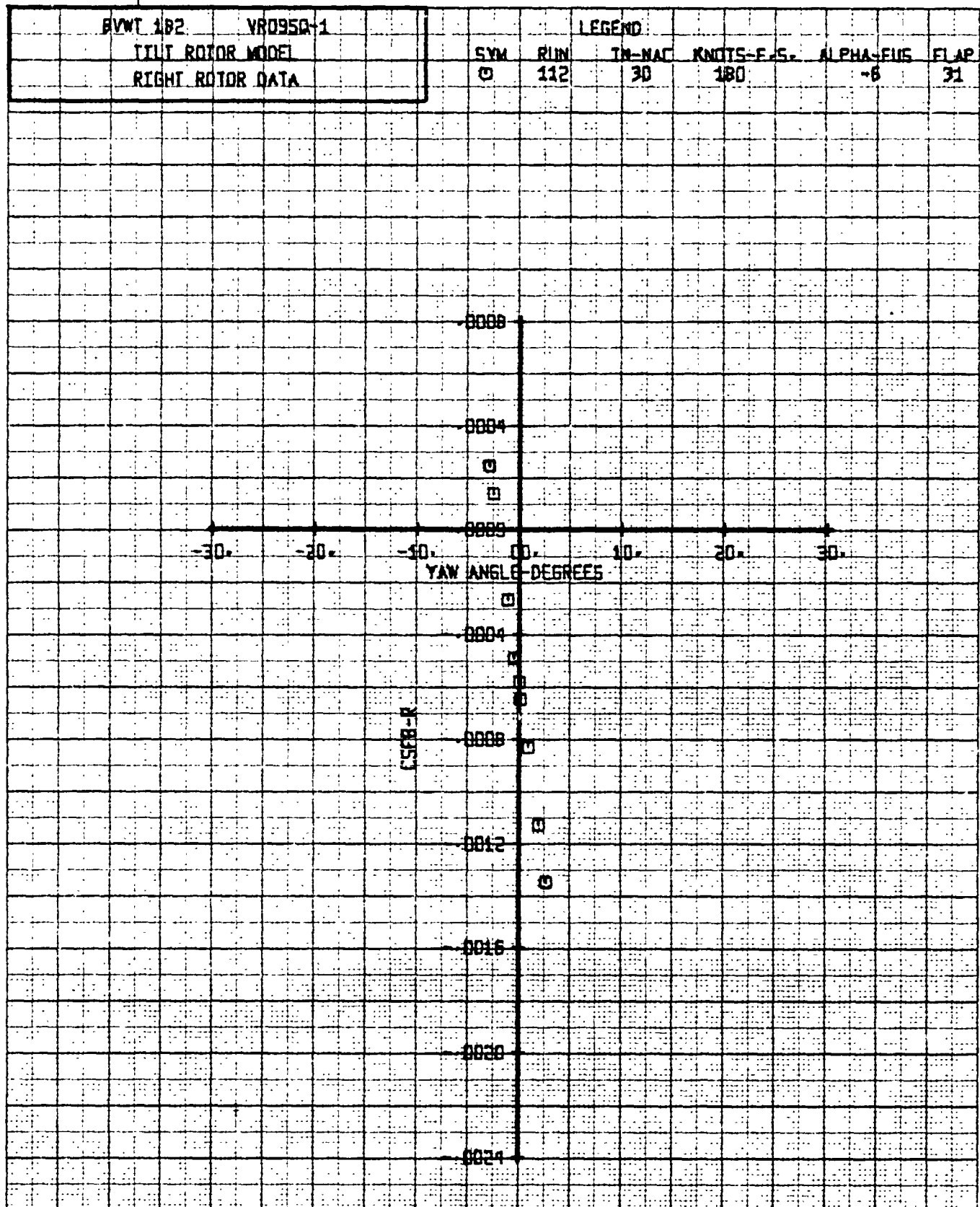
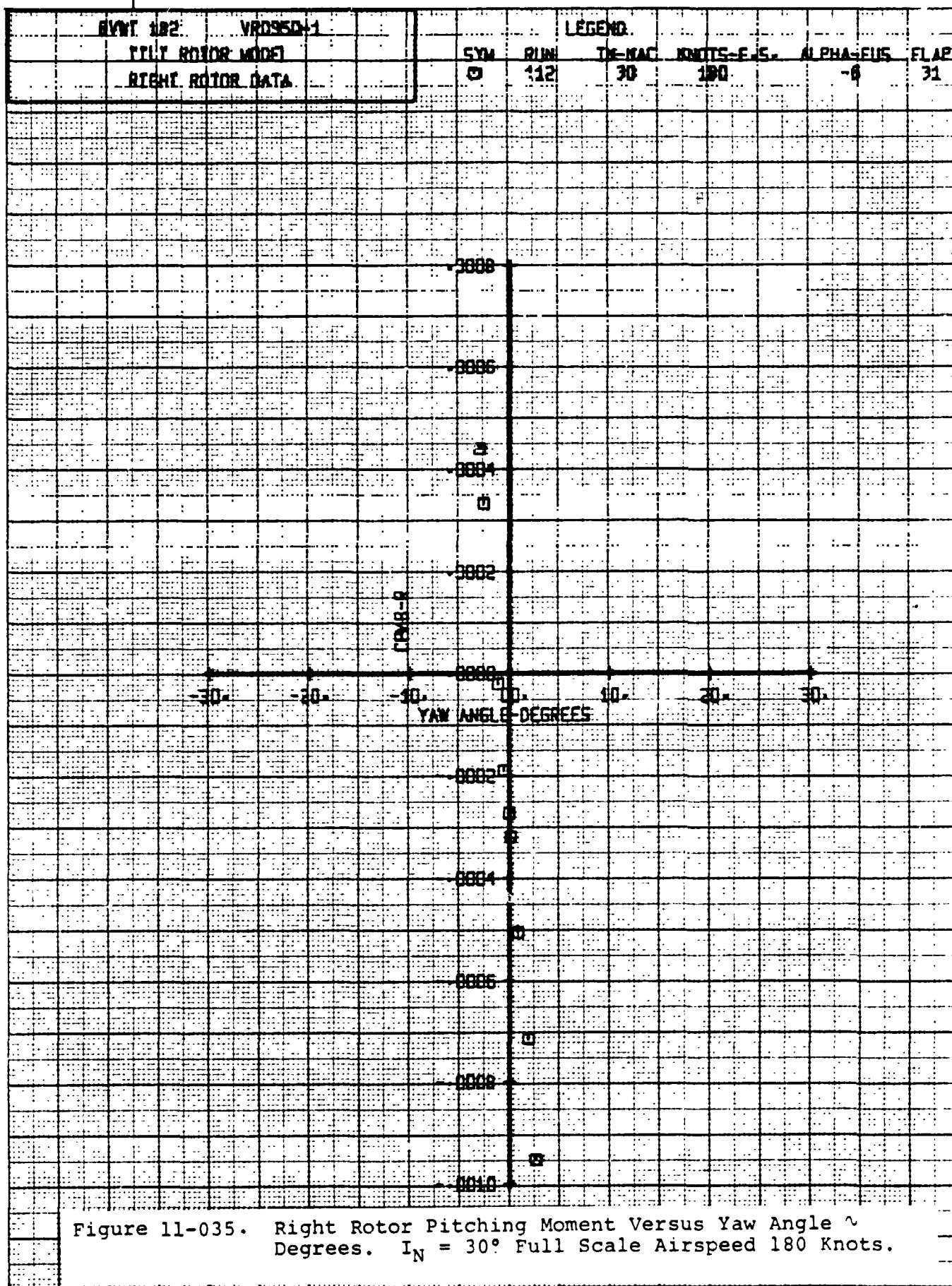
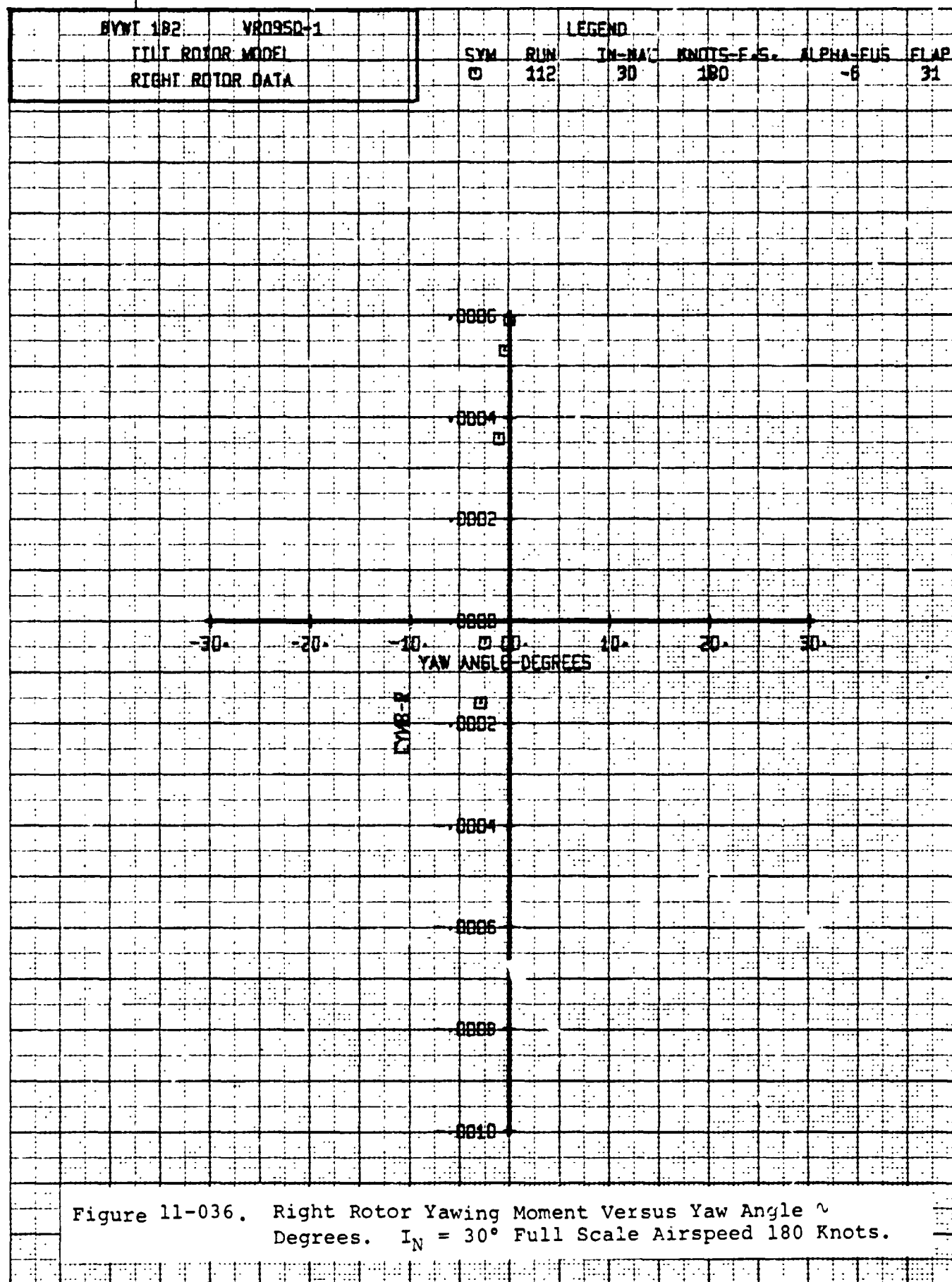


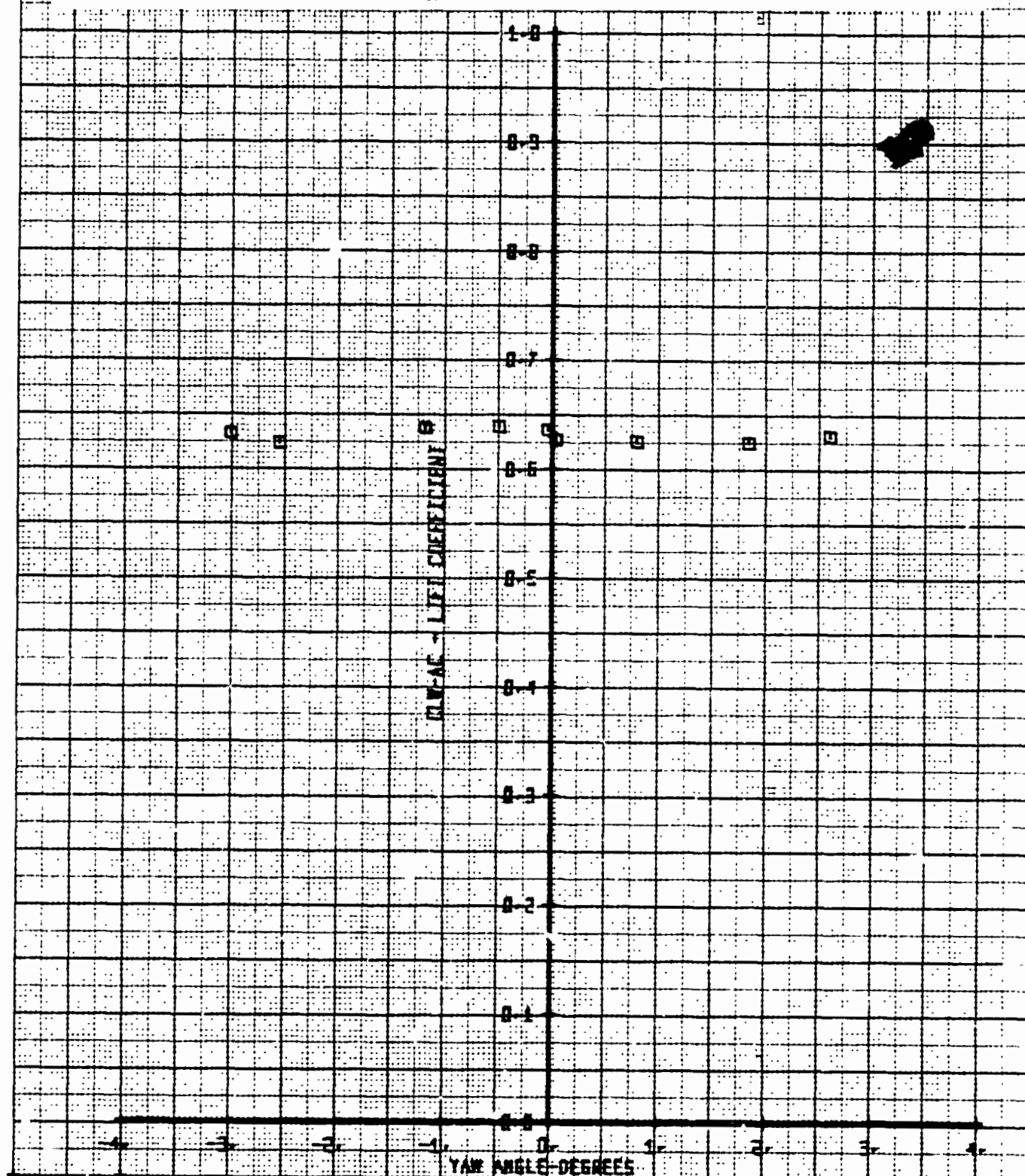
Figure 11-034. Right Rotor Side Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

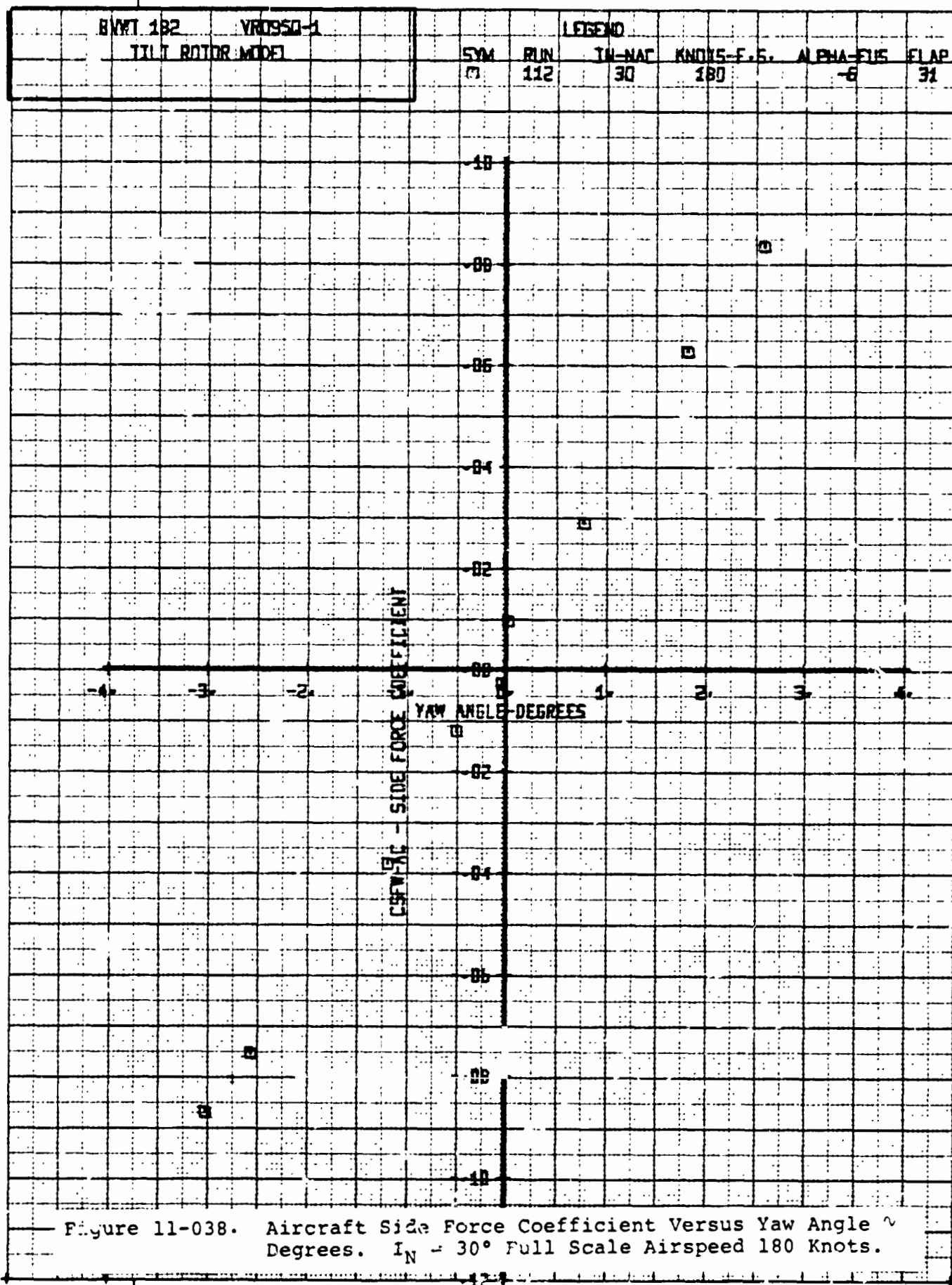


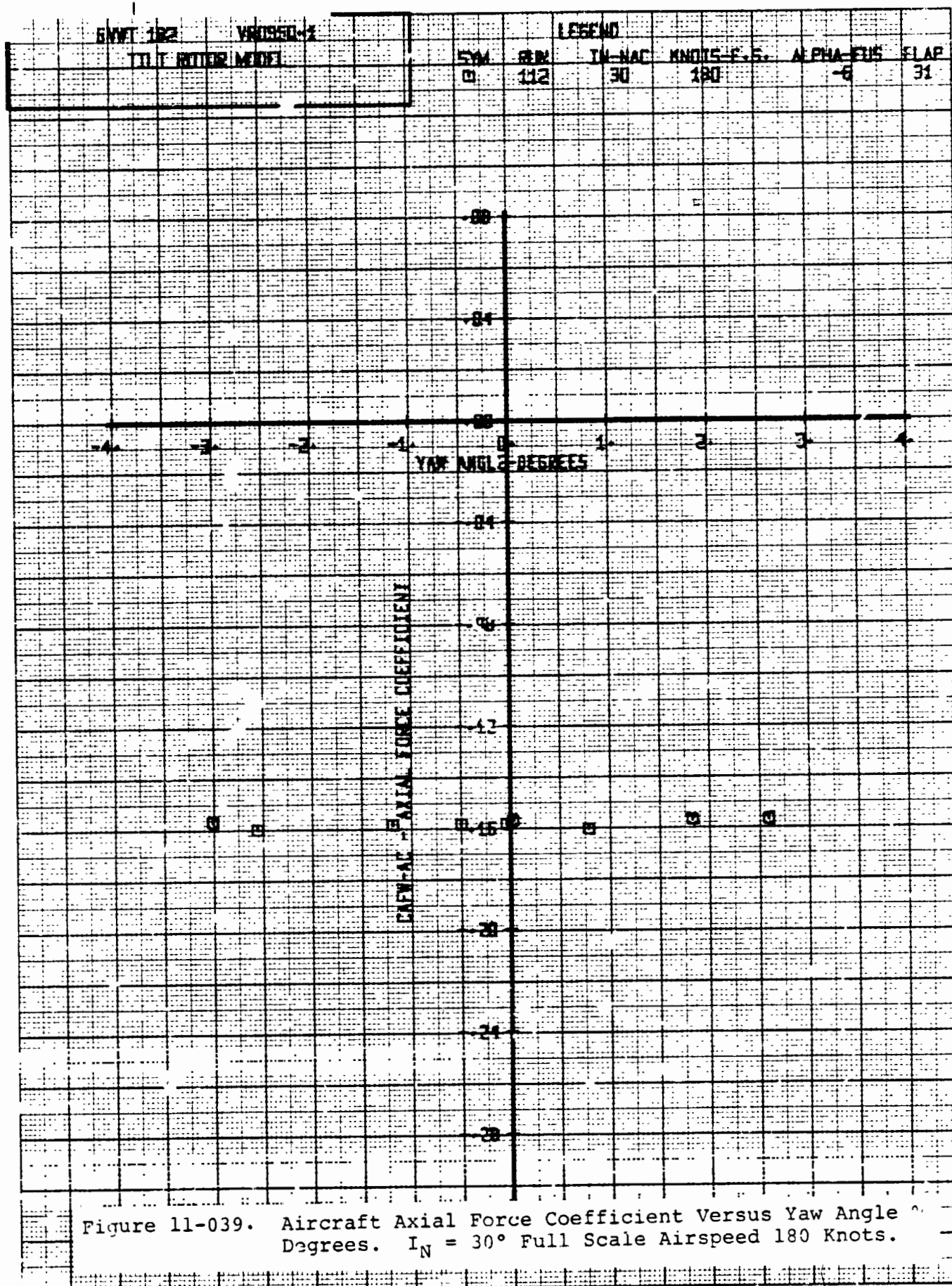


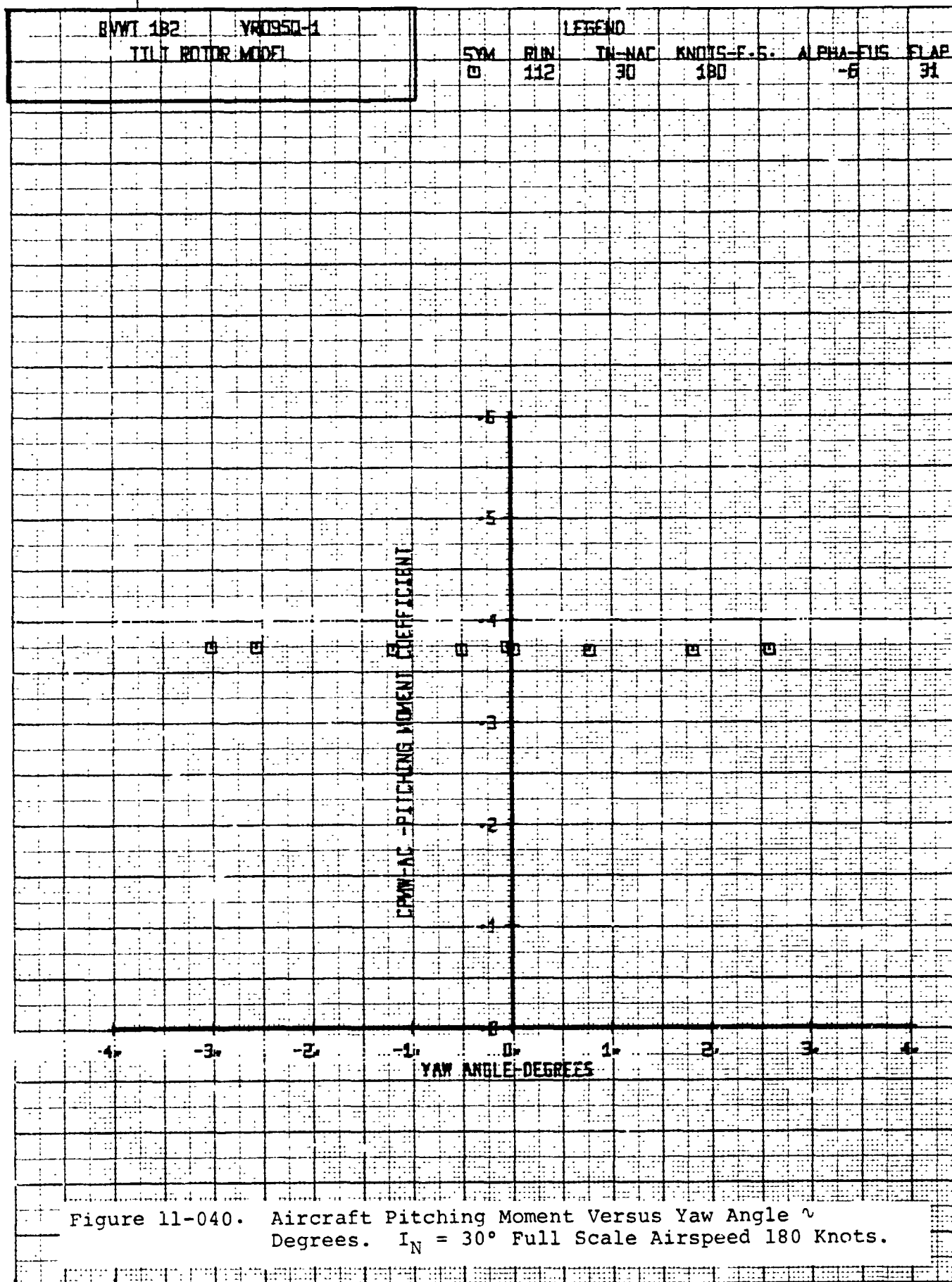
RWFT 102		VRO550-1		LEGEND:					
TILT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
				□	112	30	180	-6	31

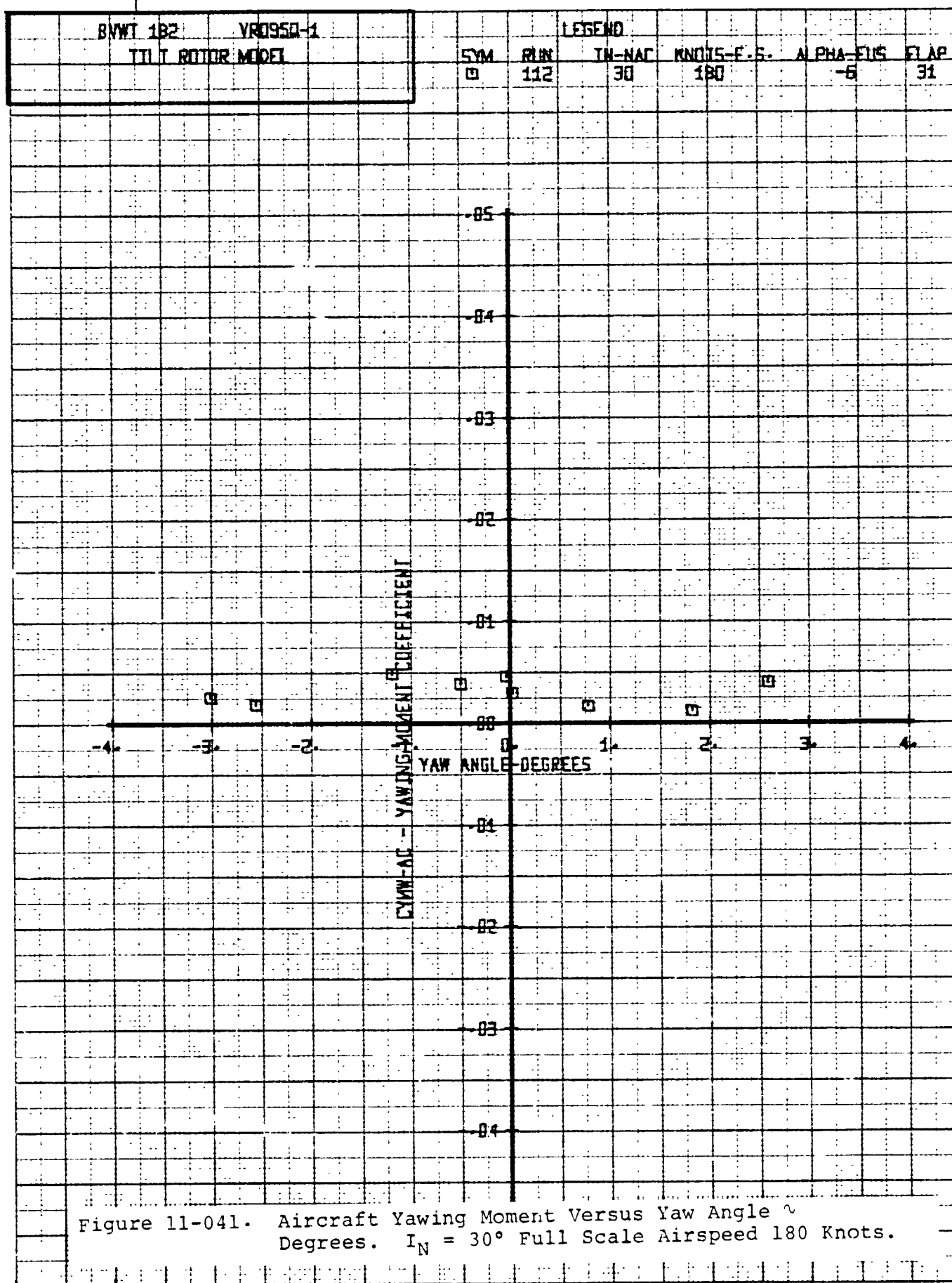
Figure 11-037. Aircraft Lift Coefficient Versus Yaw Angle ~
Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

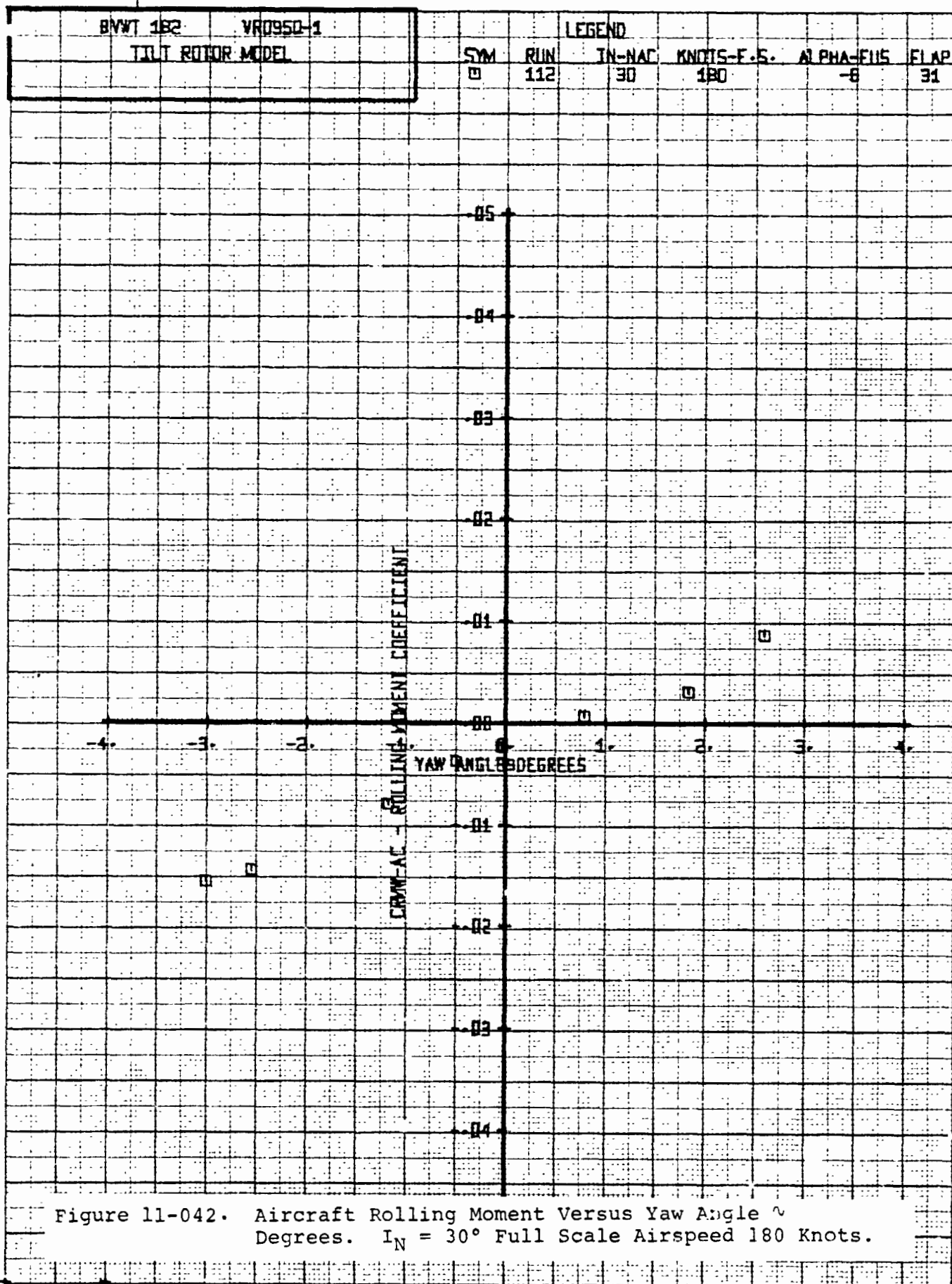












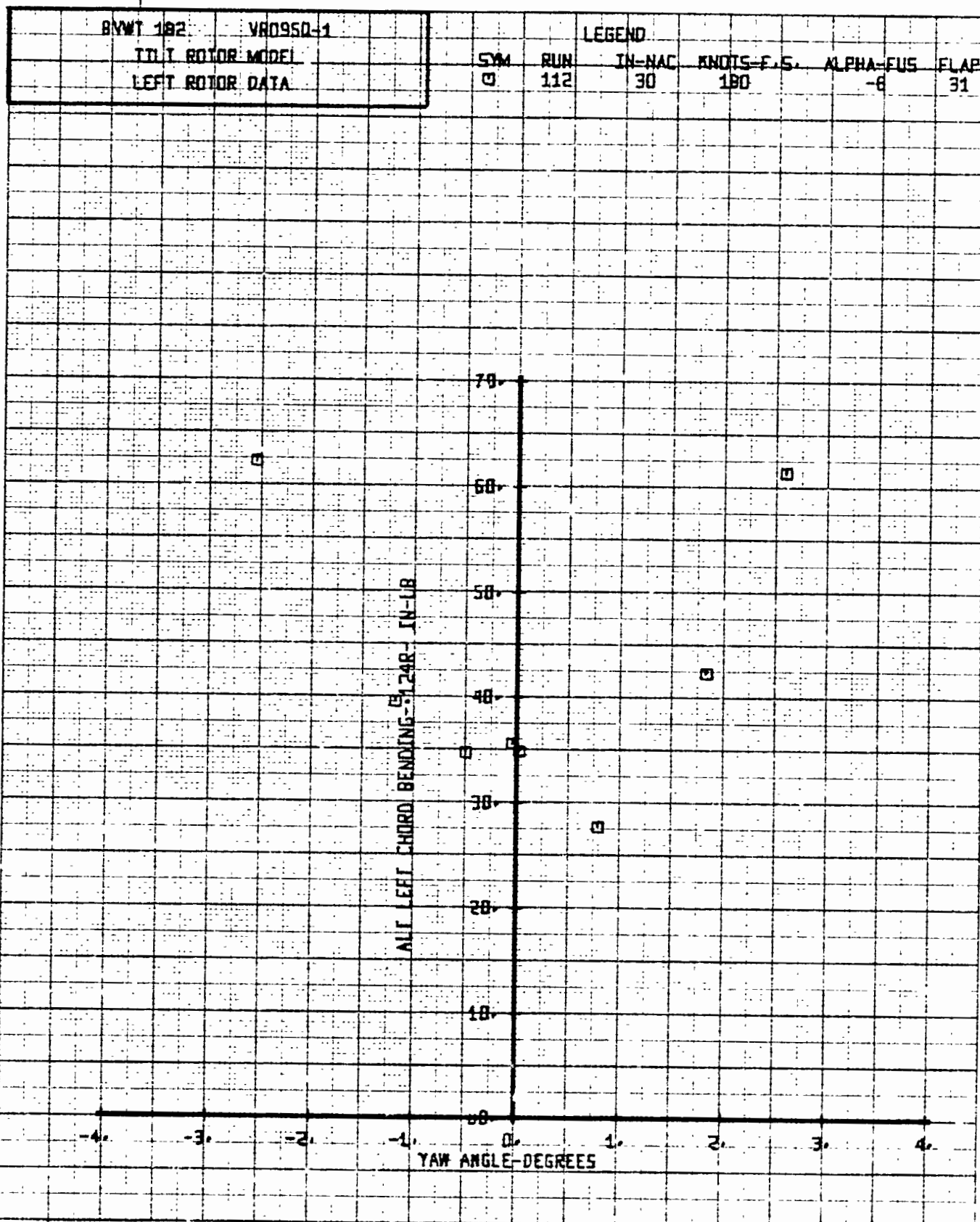
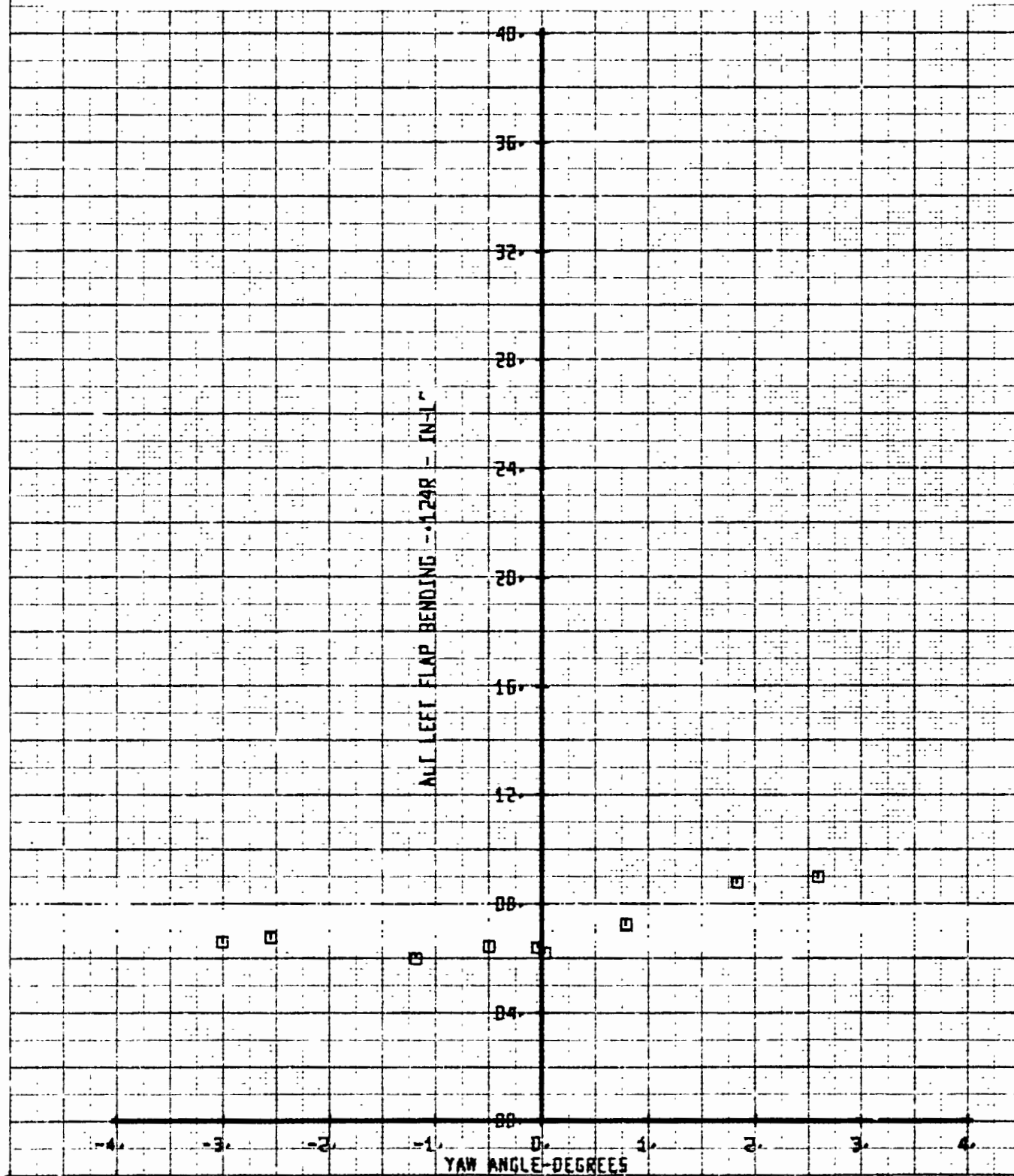


Figure 11-043. Alt. Left Chord Bending Versus Yaw Angle ~
Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

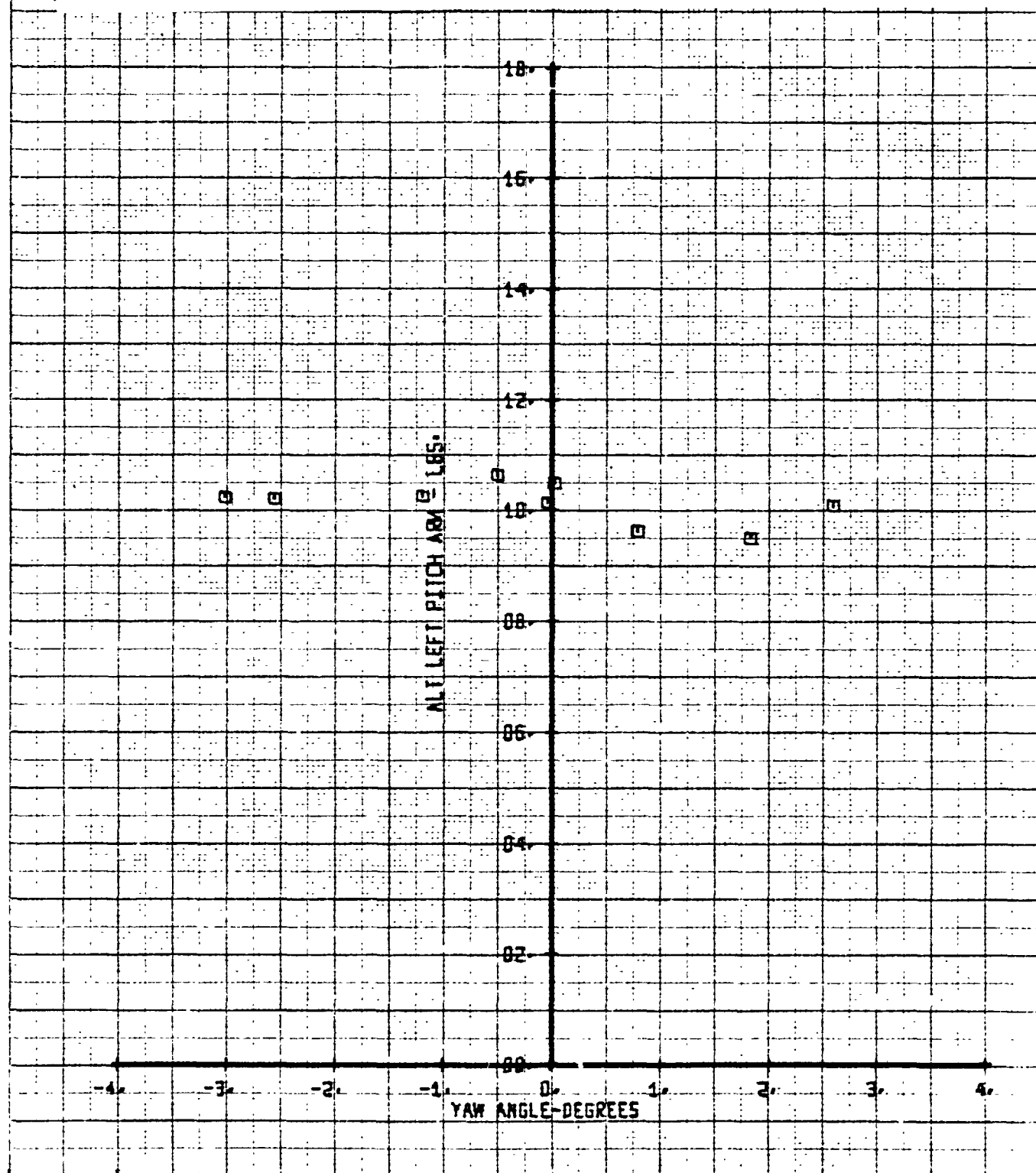
BVWT 182	VR0950-1	LEGEND				
TIT I ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	112	30	180	-6
						31

Figure 11-044. Alt. Left Flap Bending Versus Yaw Angle γ
Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND			
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.
LEFT ROTOR DATA		□	112	30	180
					ALPHA-FUS
					-8
					FLAP
					31

Figure 11-045. Alt. Left Pitch Link Load Versus Yaw Angle ~
Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



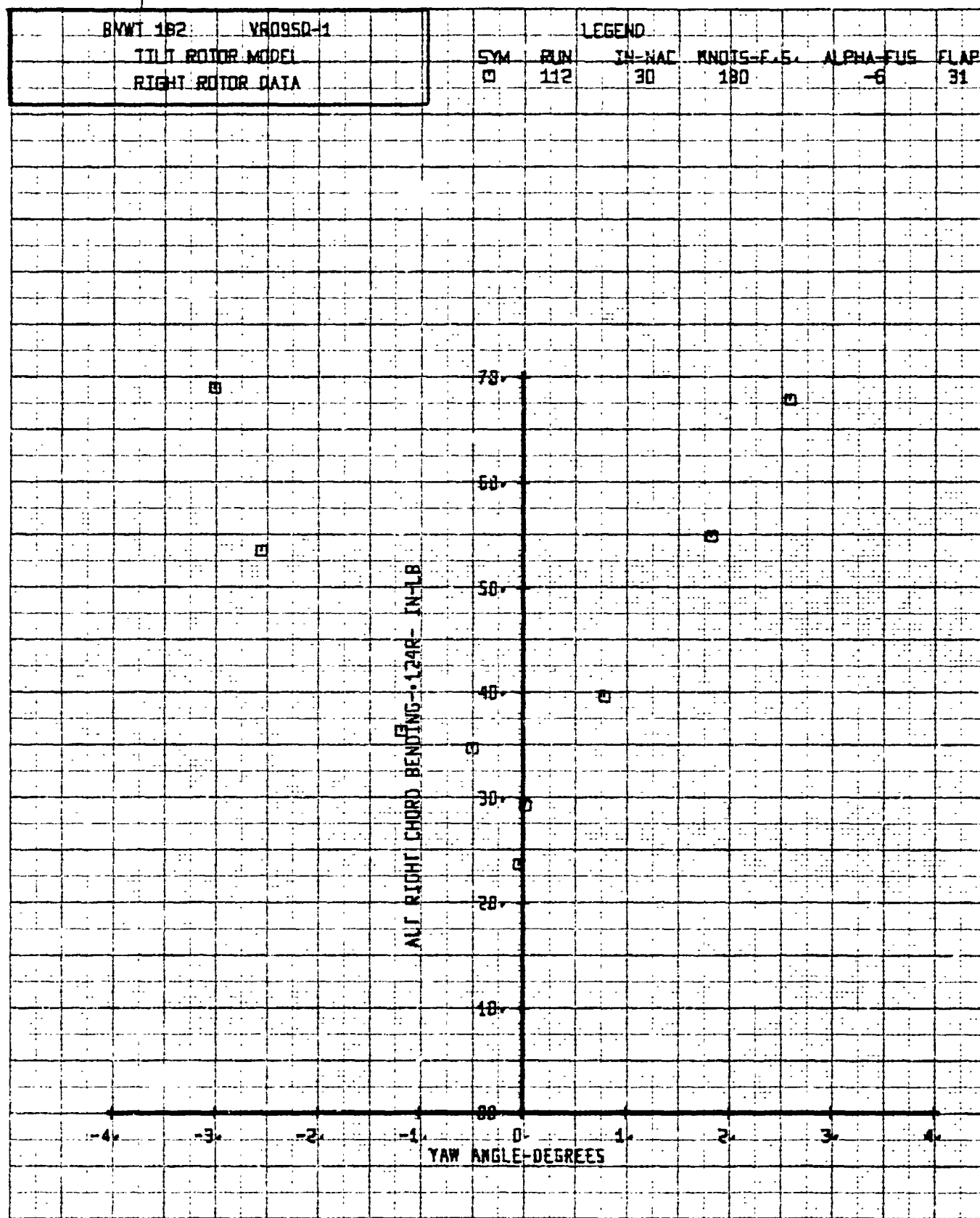
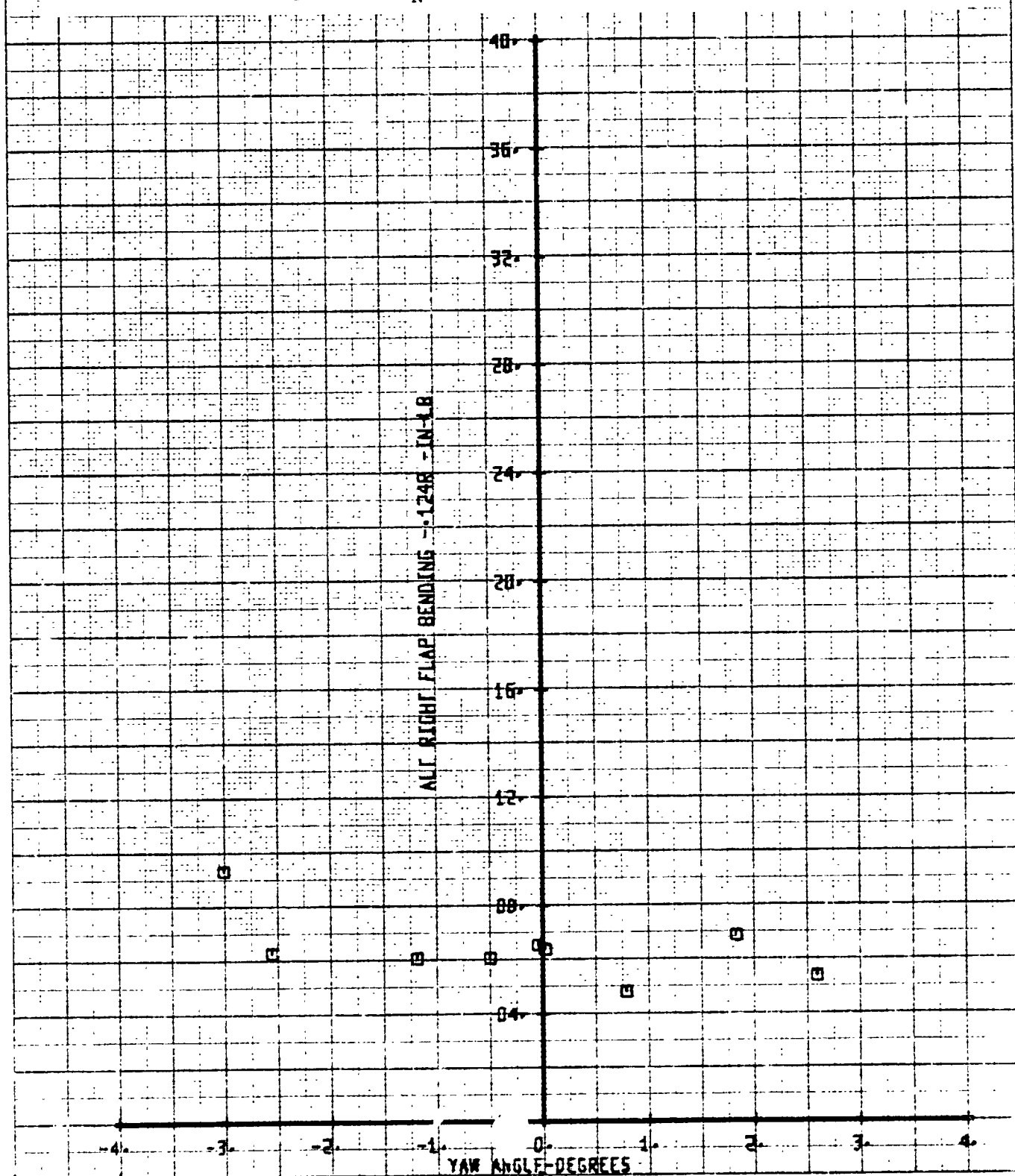


Figure 11-046. Alt. Right Chord Bending Versus Yaw Angle ~
 Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

BVWT 182	VR095D-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	112	30	180	-6
						FLAP 31

Figure 11-047. Alt. Right Flap Bending Versus Yaw Angle γ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182 VR0950-1

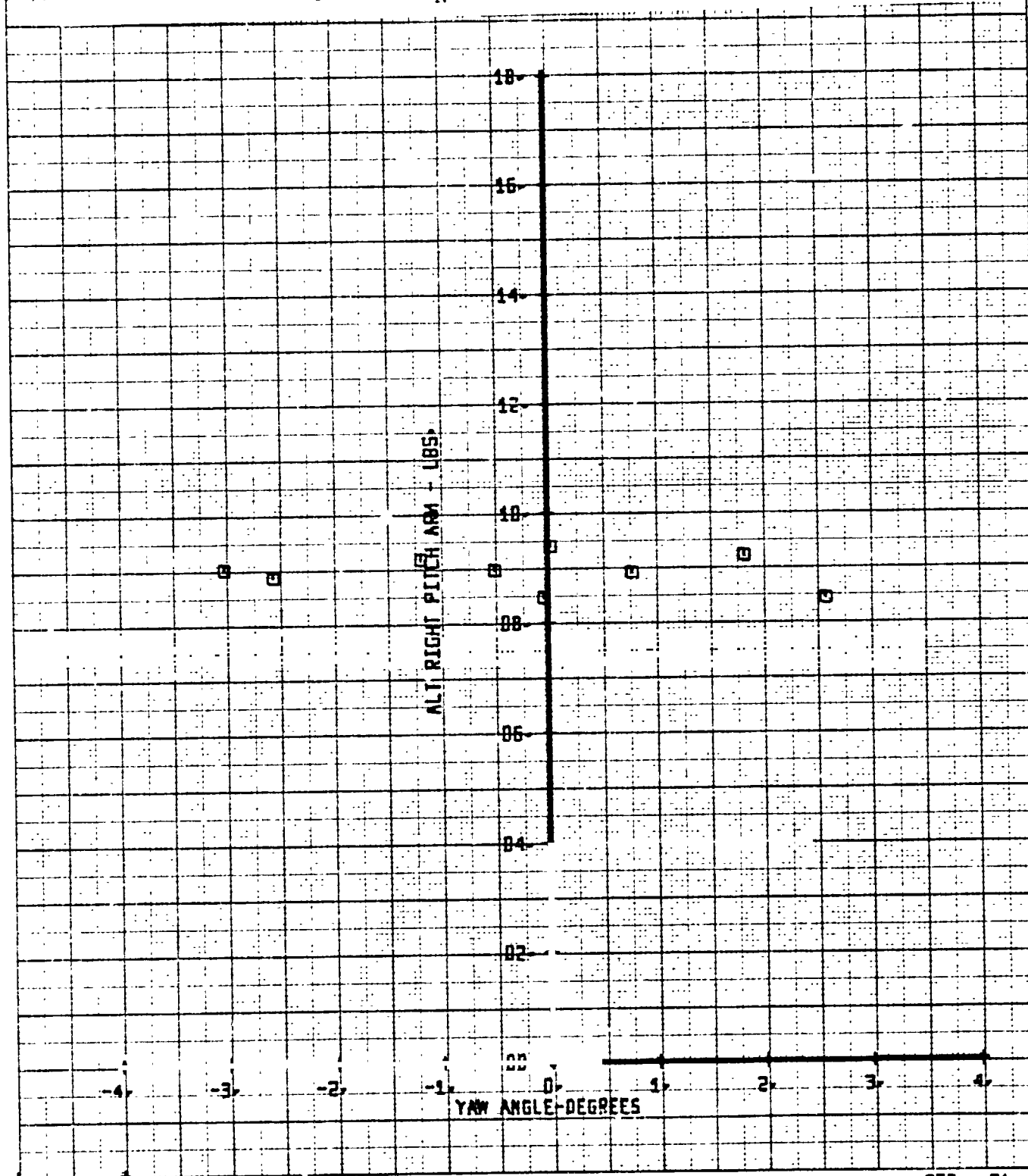
TILT ROTOR MODEL

RIGHT ROTOR DATA

LEGEND

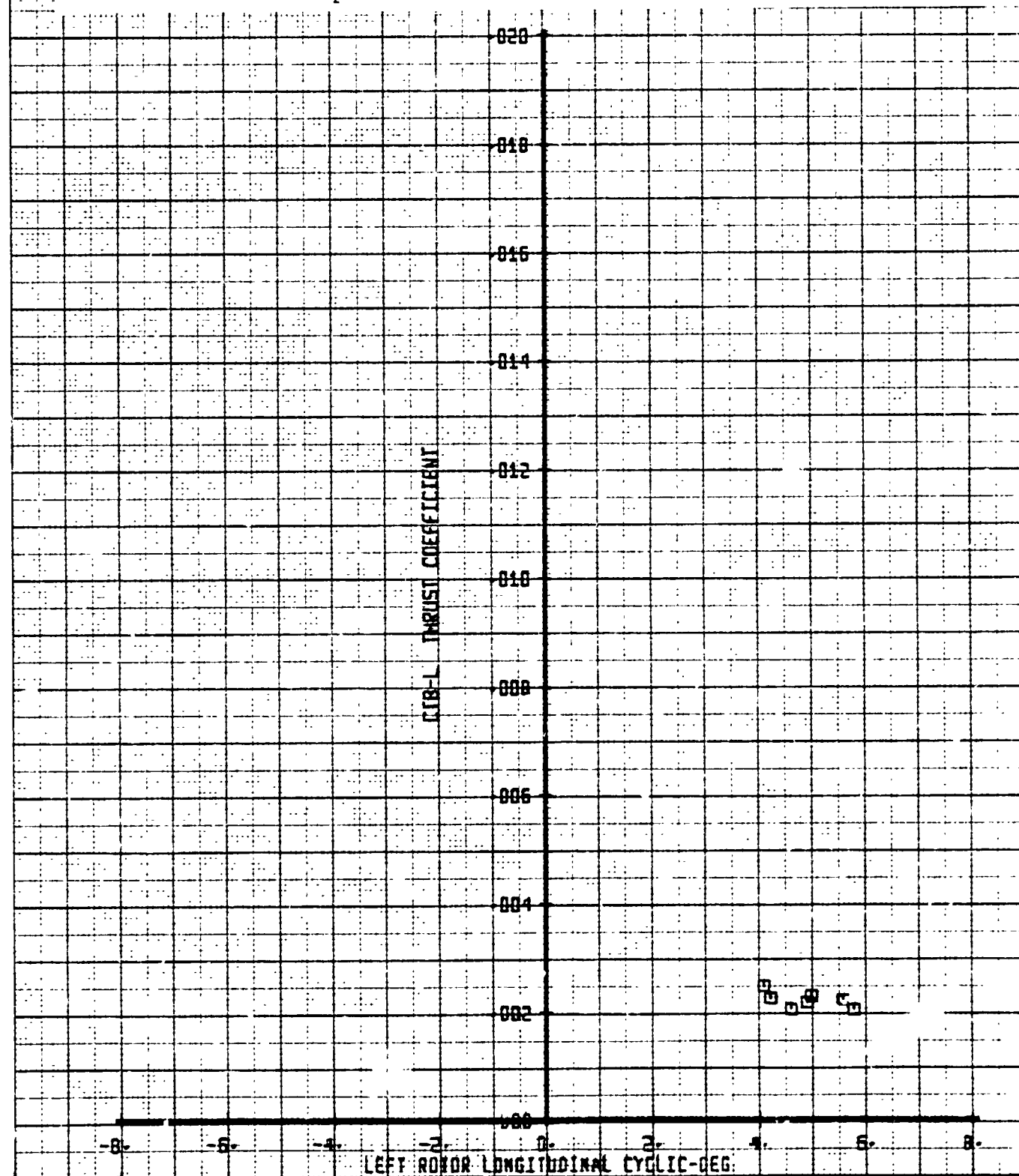
SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-DEG	FLAP
□	112	30	180	-6	31

Figure 11-048. Alt. Right Pitch Link Load Versus Yaw Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



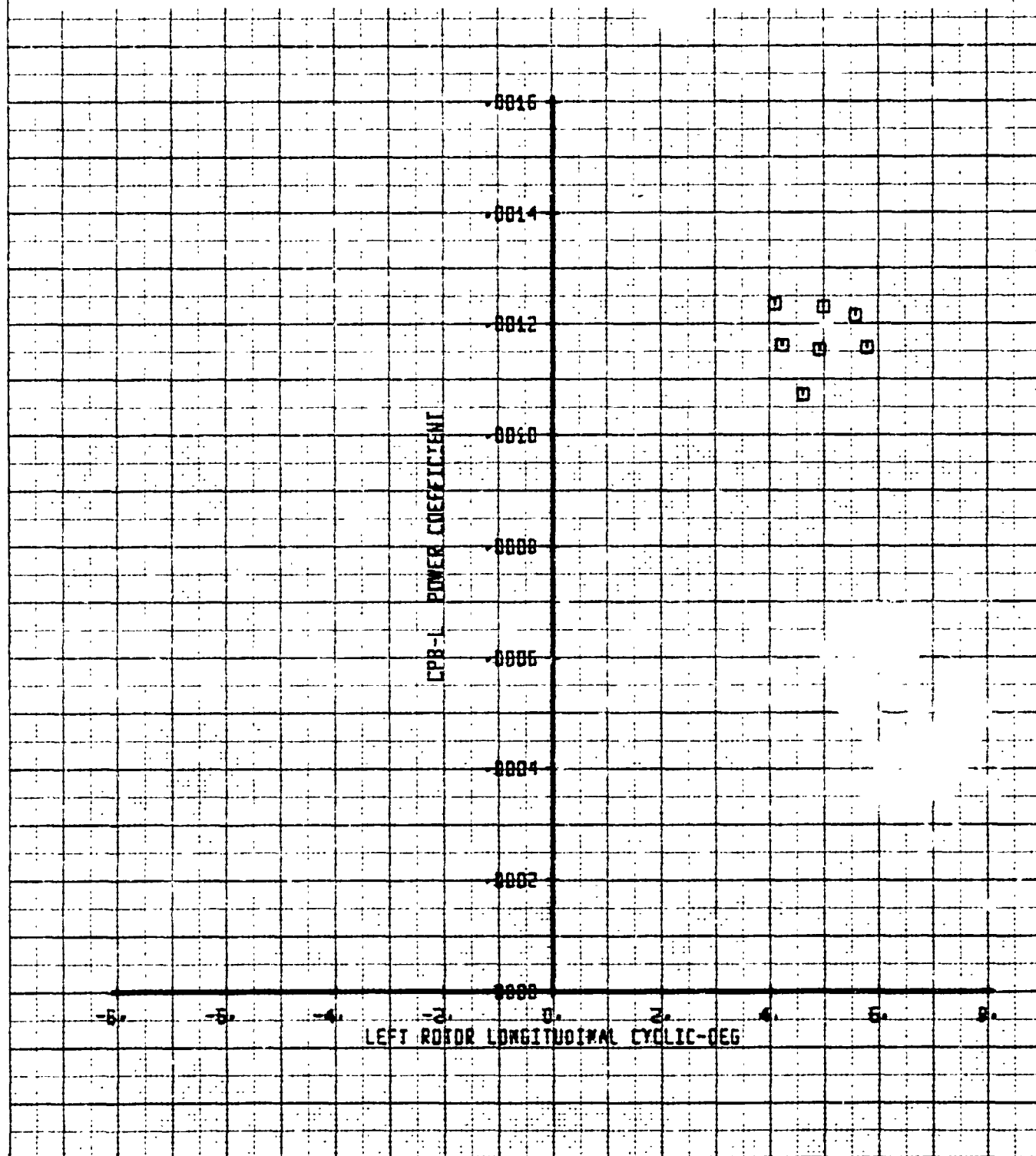
BYWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SWM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	114	30	180	-6
						31

Figure 11-049. Left Rotor Thrust Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.



BVWT 182	YR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	114	30	180	-6
						FLAP 31

Figure 11-050. Left Rotor Power Coefficient Versus Left Rotor Long. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.



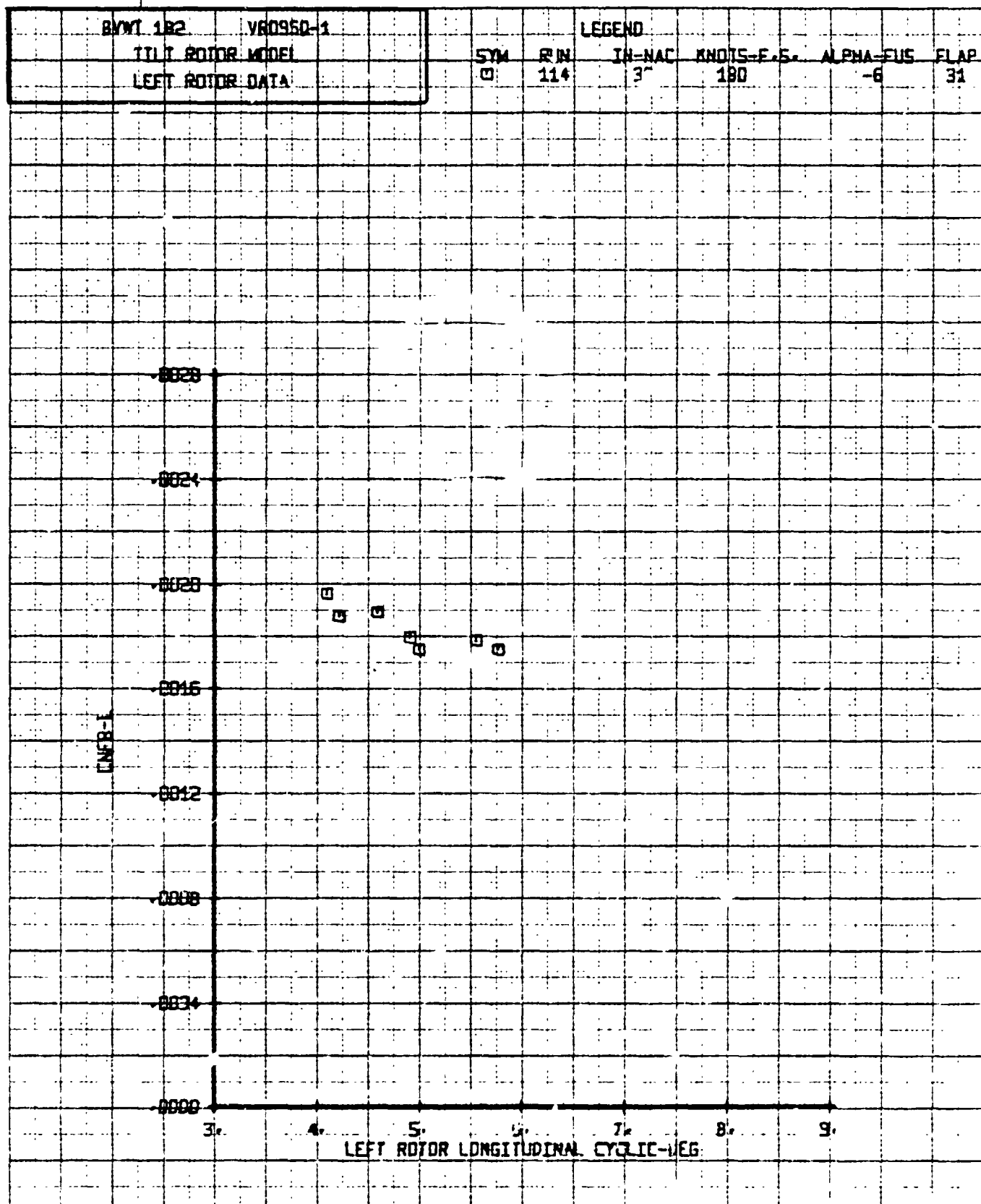


Figure 11-051. Left Rotor Normal Force Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

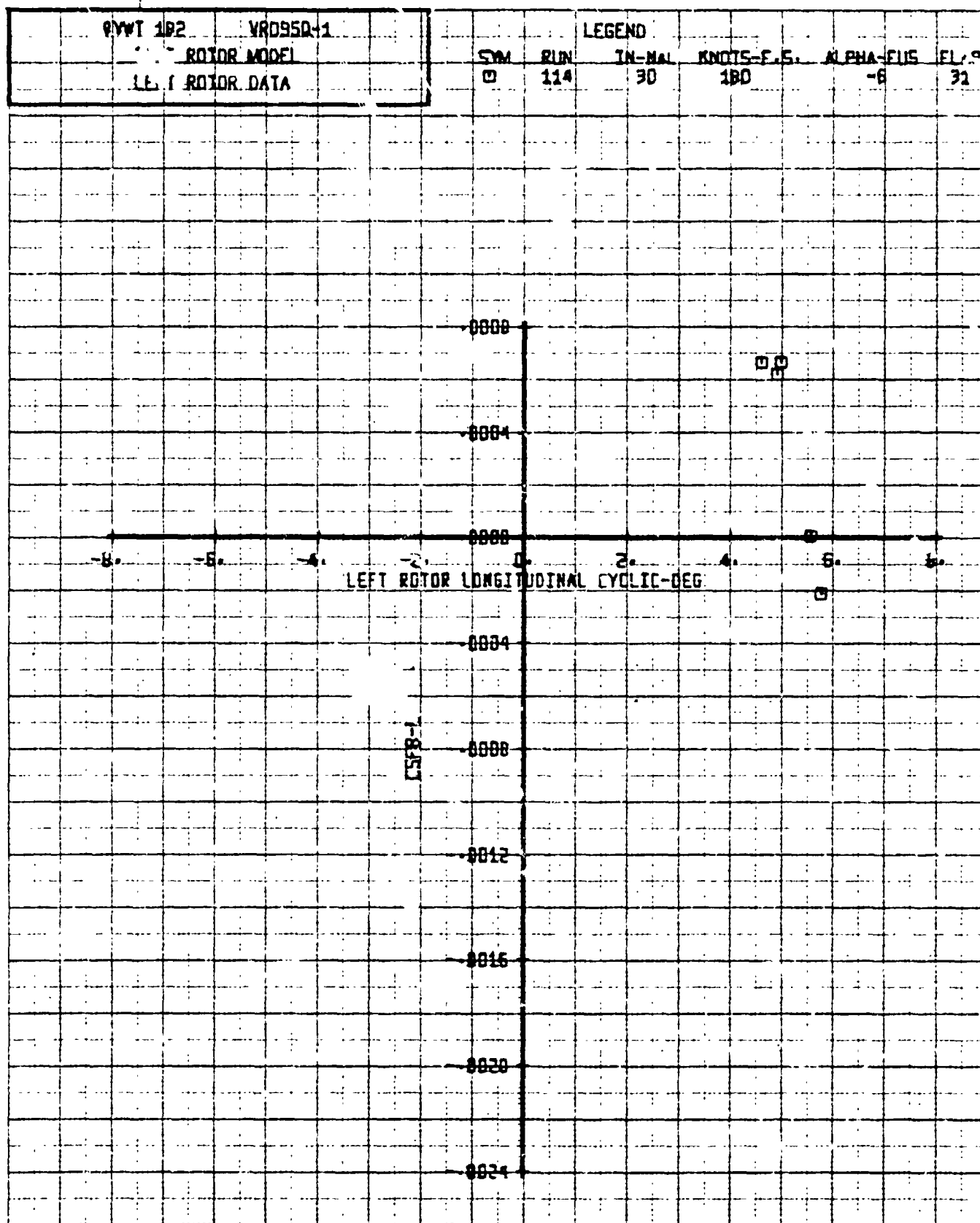
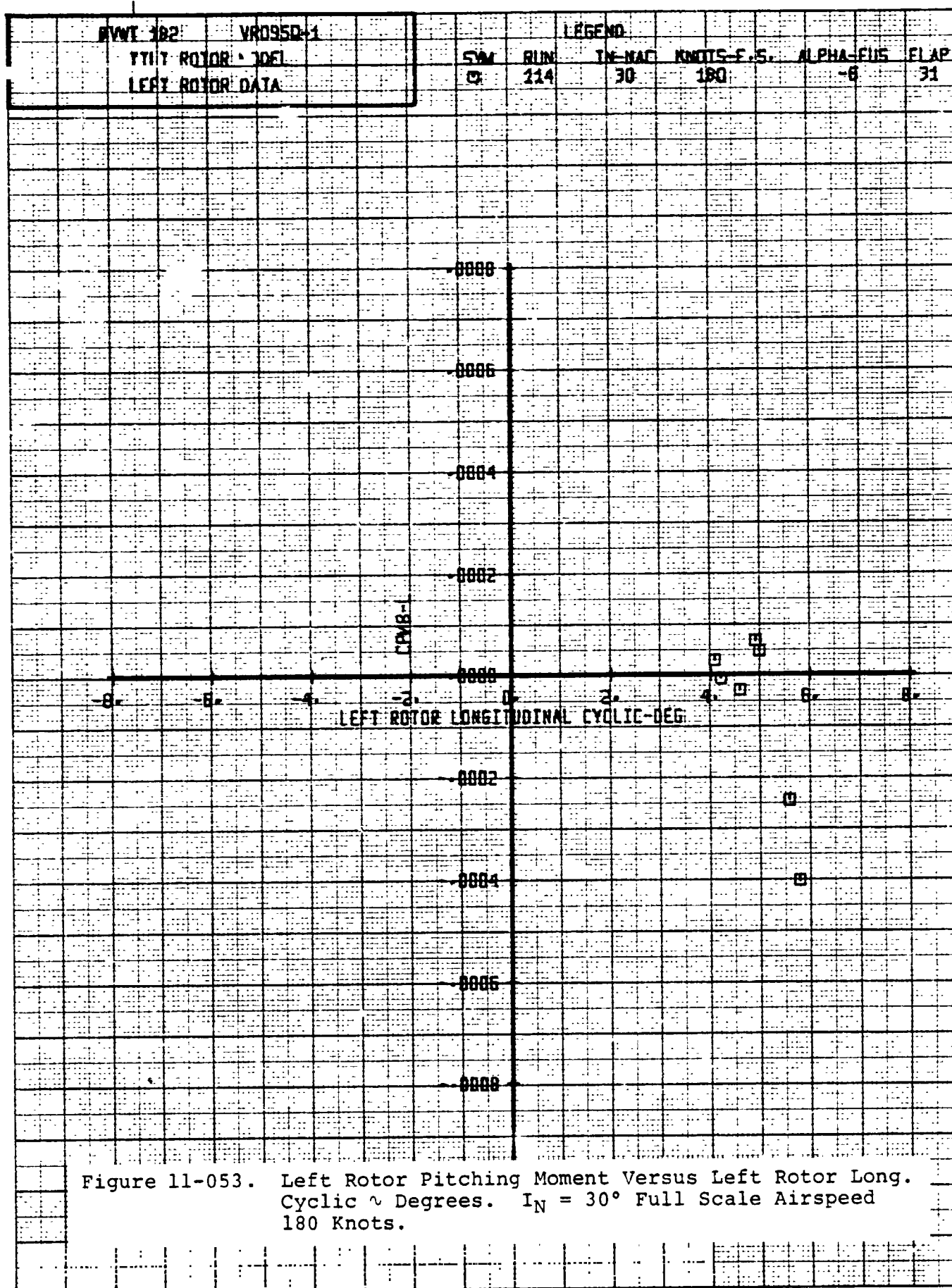


Figure 11-052. Left Rotor Side Force Coefficient Versus Left Rotor Long. Cyclic \sim Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



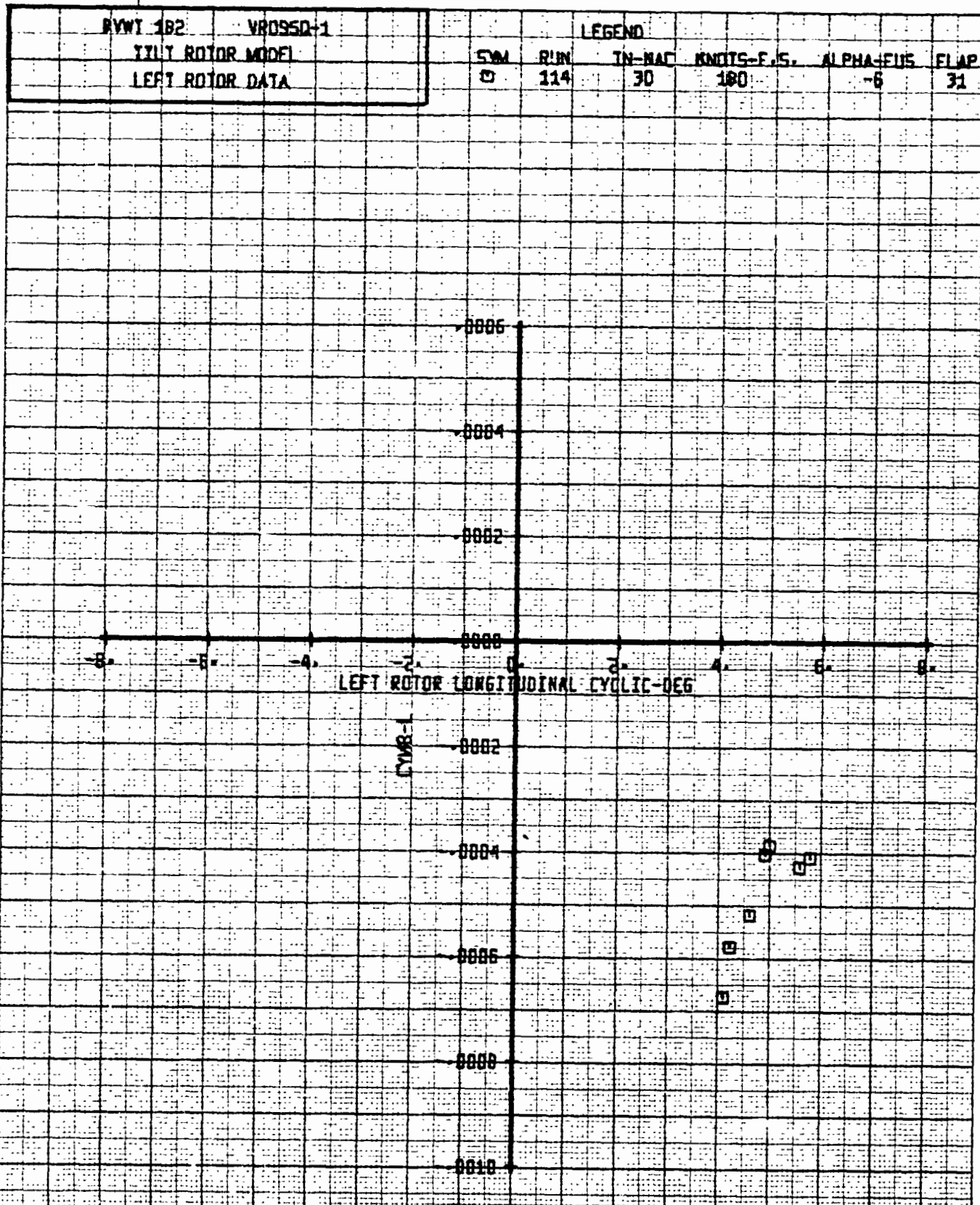
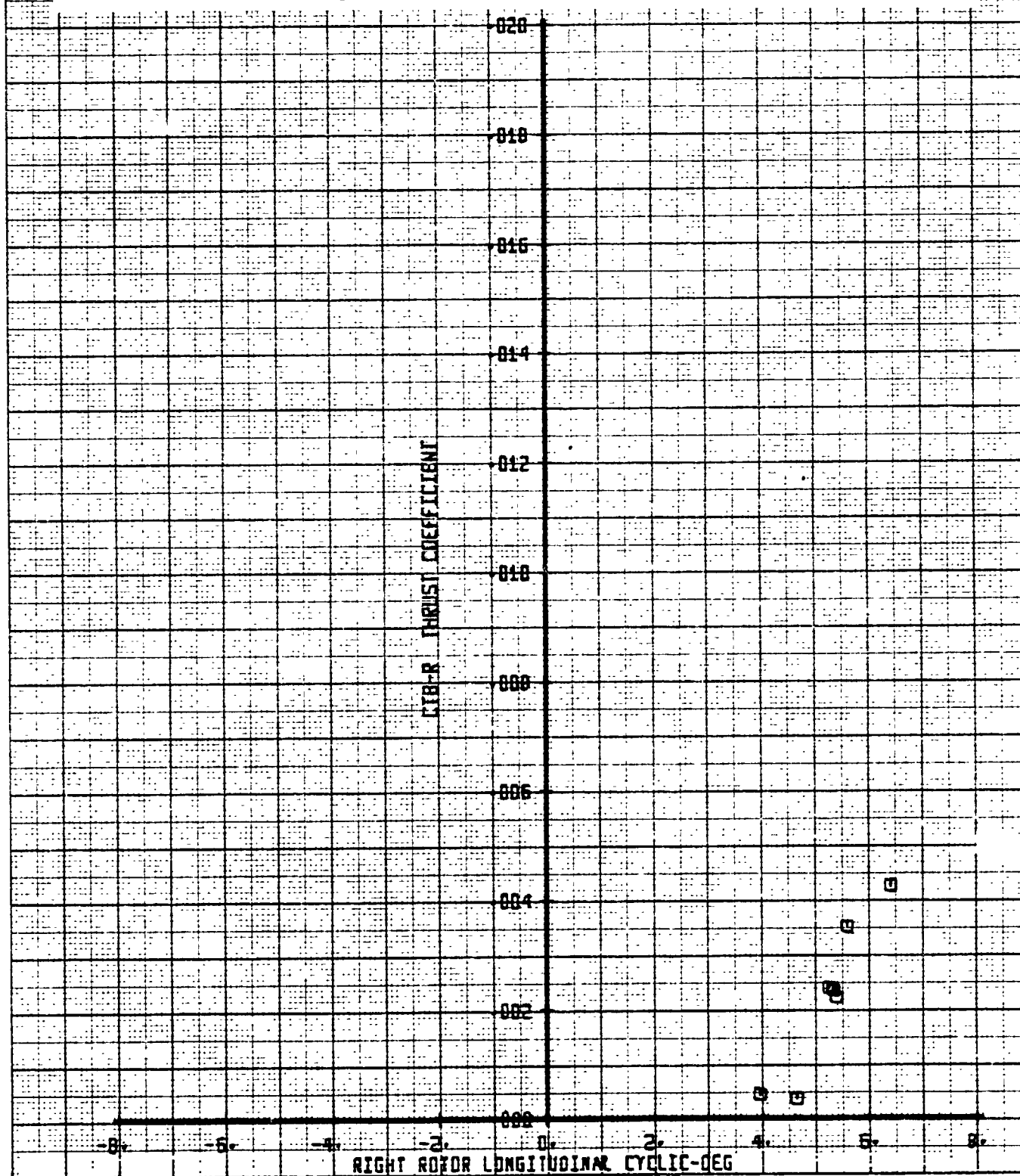
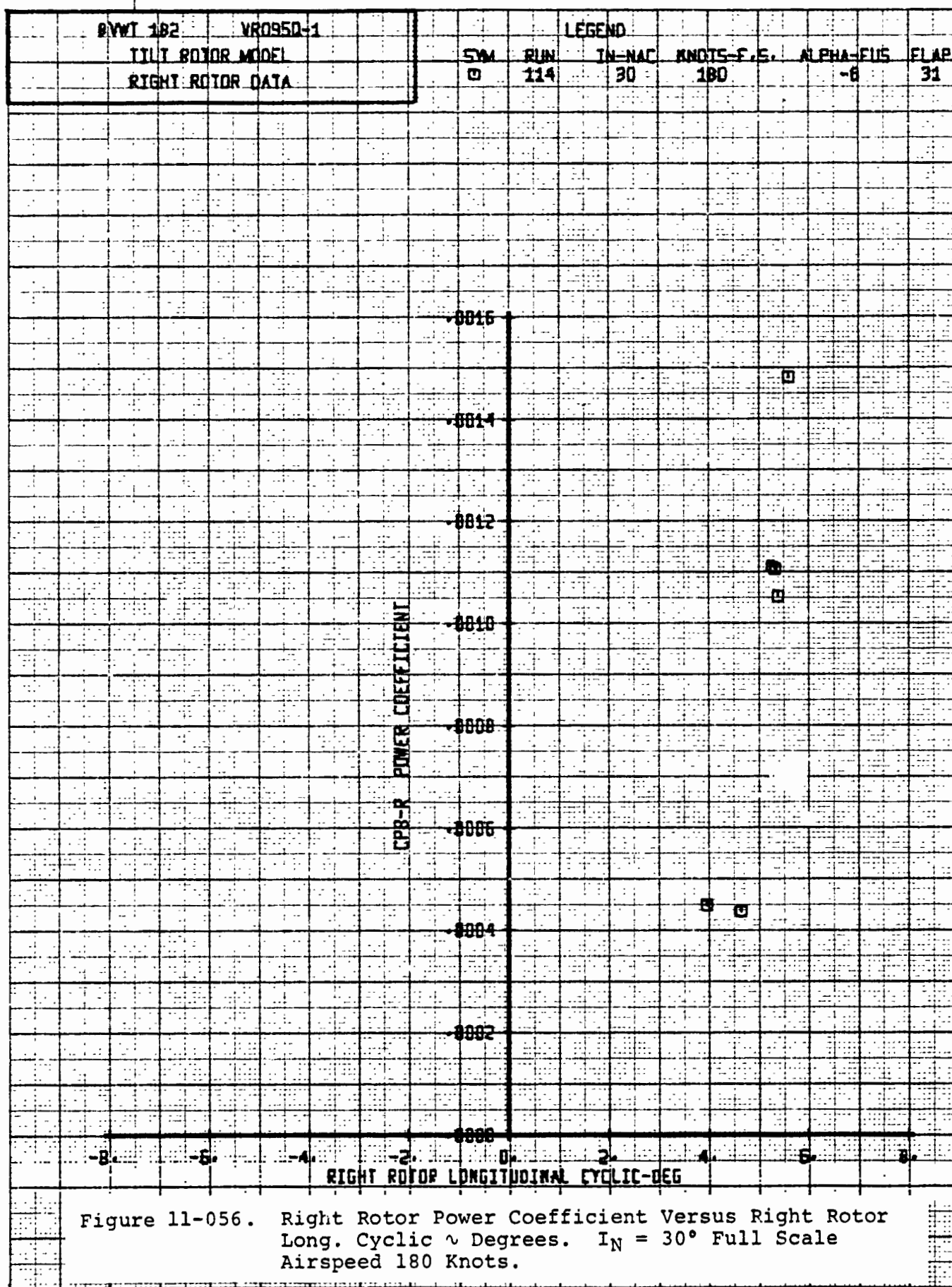


Figure 11-054. Left Rotor Yawing Moment Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

SVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SWM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	114	30	180	-6
						31

Figure 11-055. Right Rotor Thrust Coefficient Versus Right Rotor Long. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.





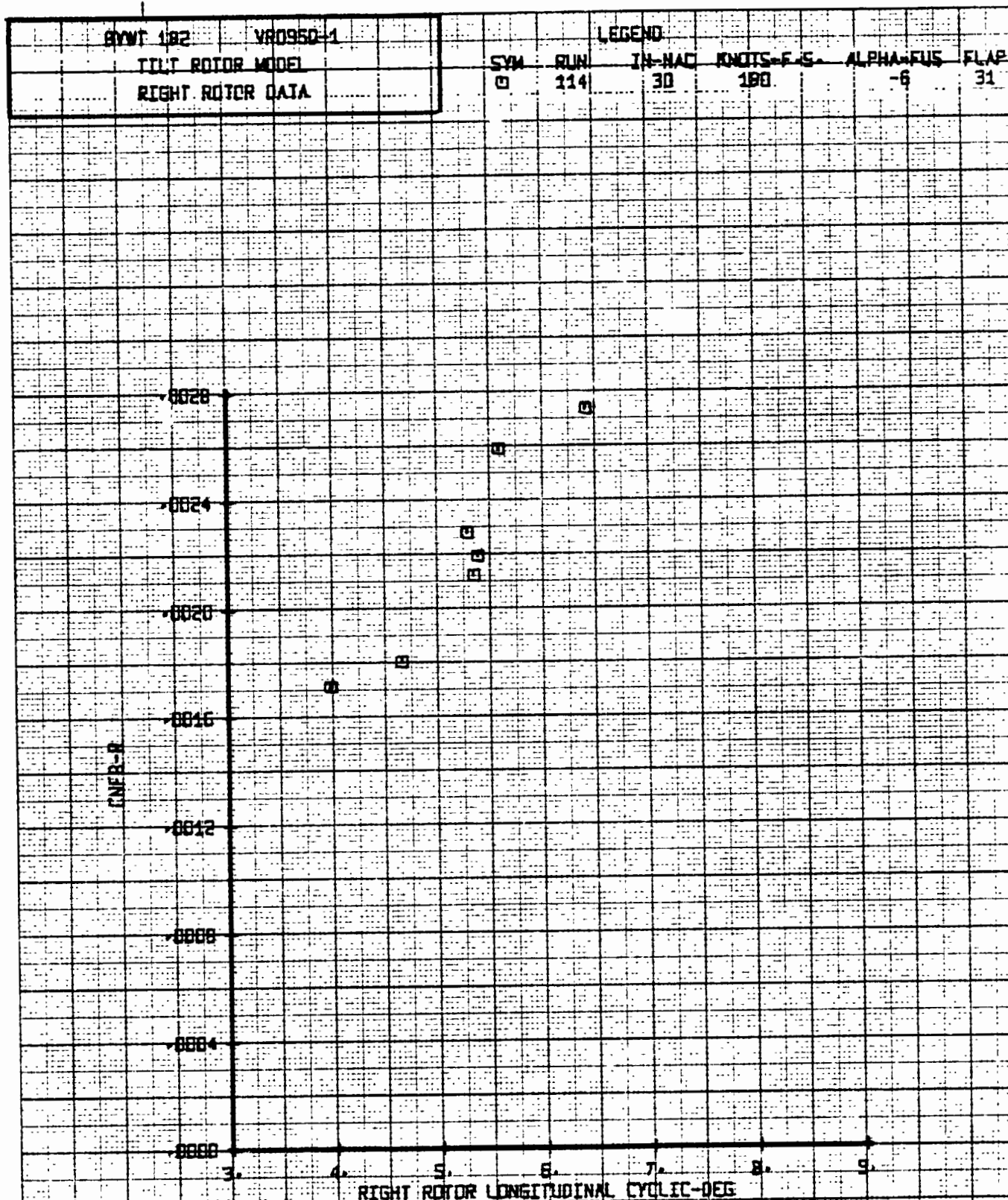
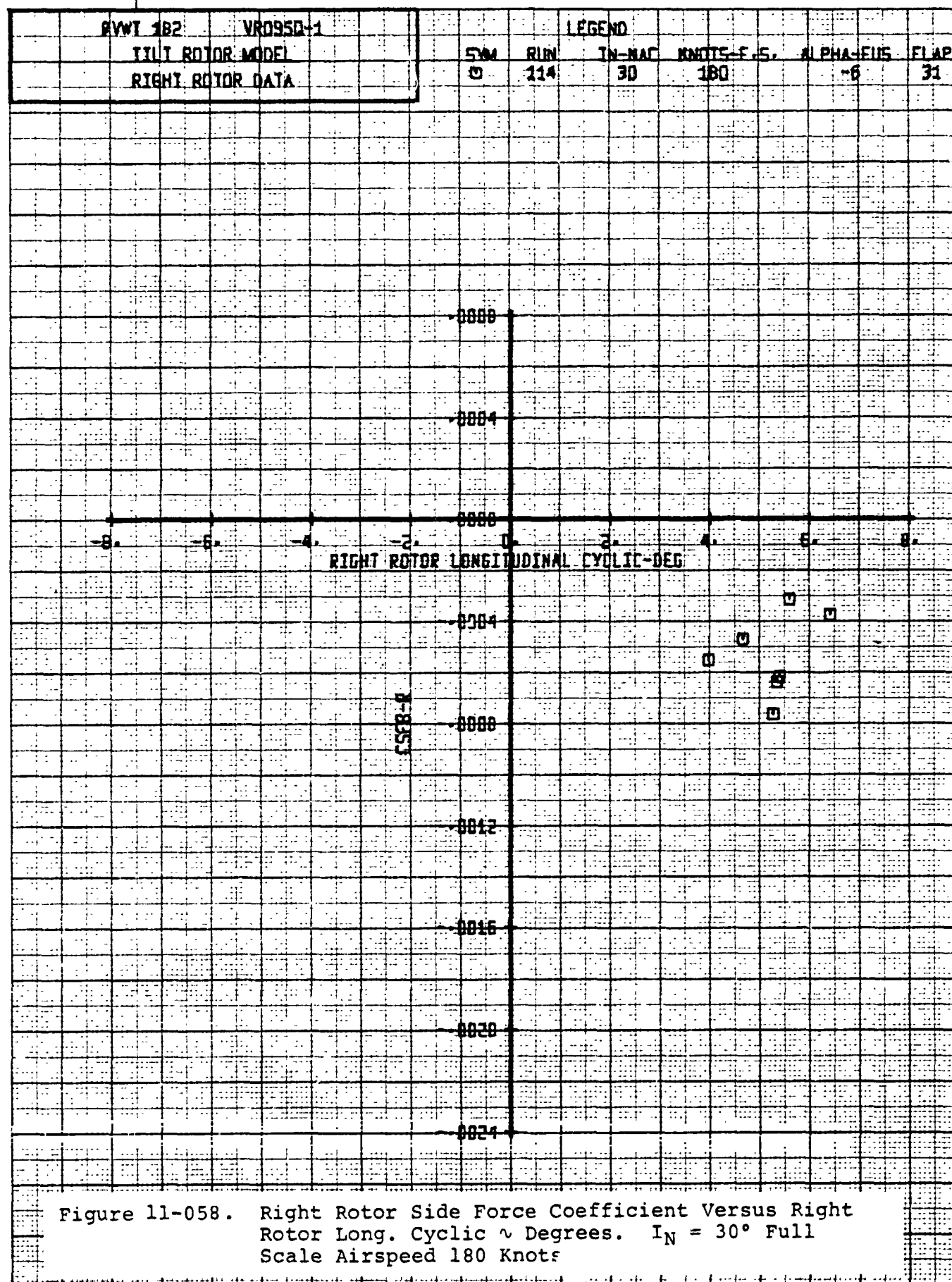


Figure 11-057. Right Rotor Normal Force Coefficient Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



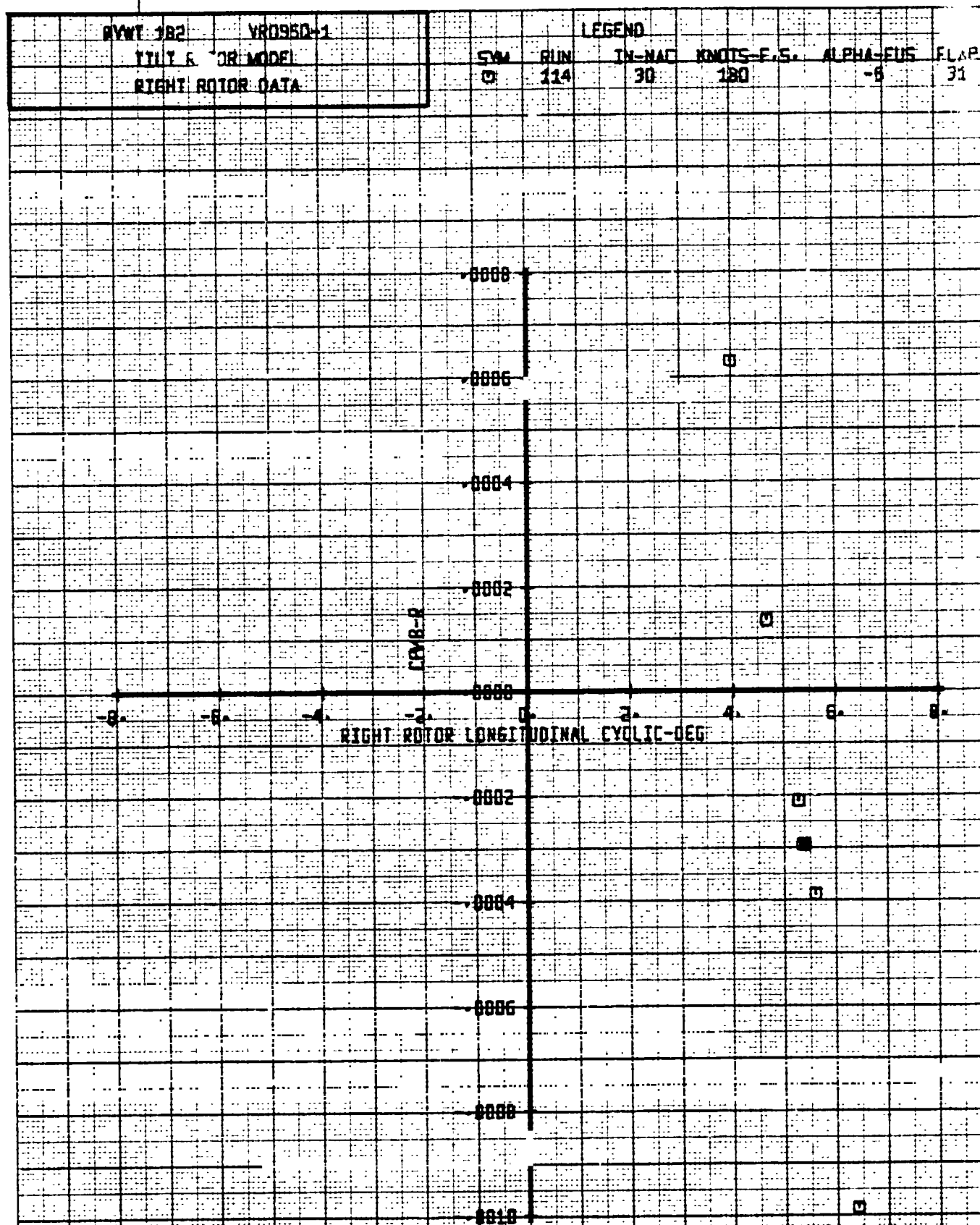


Figure 11-059. Right Rotor Pitching Moment Versus Right Rotor Long. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

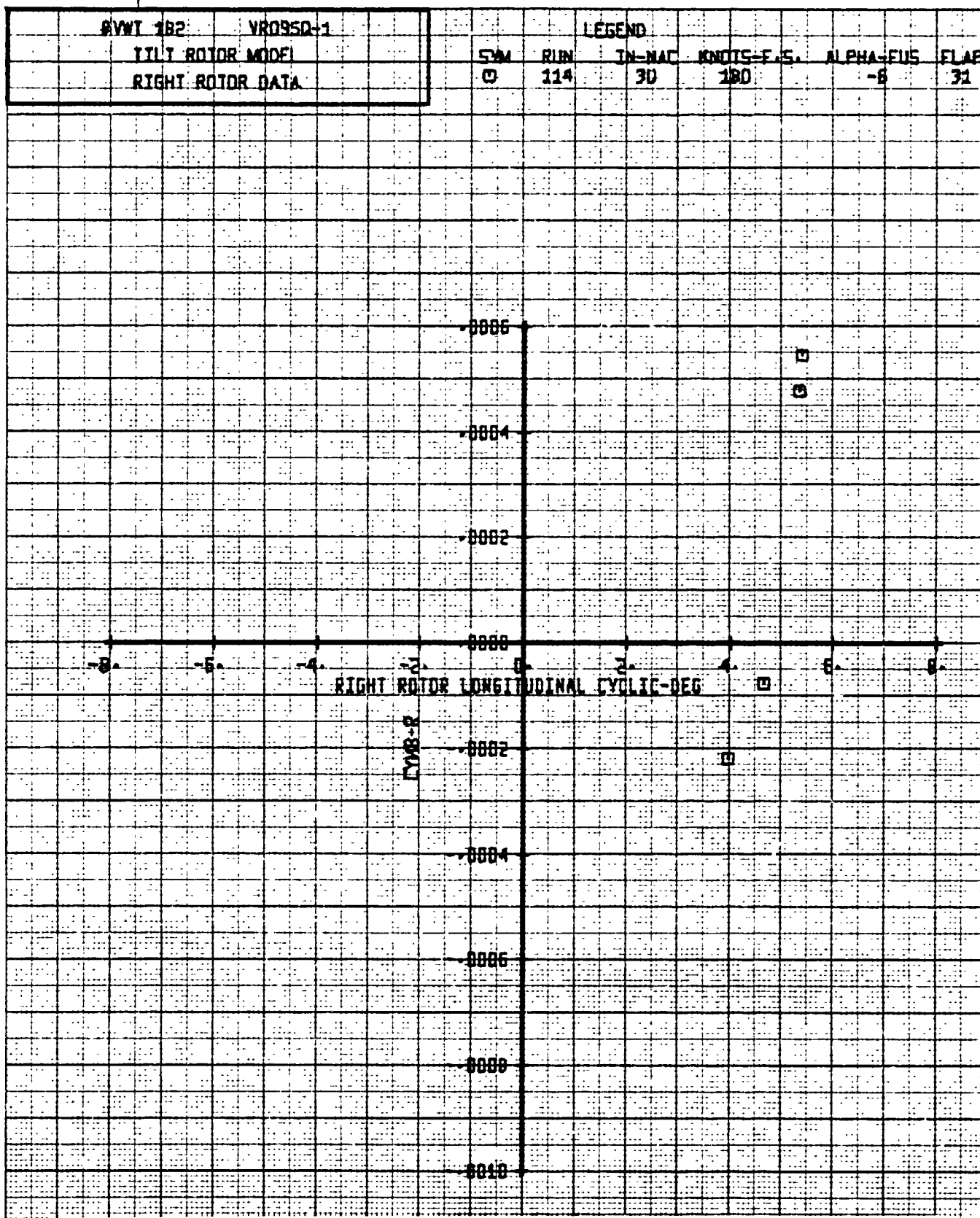
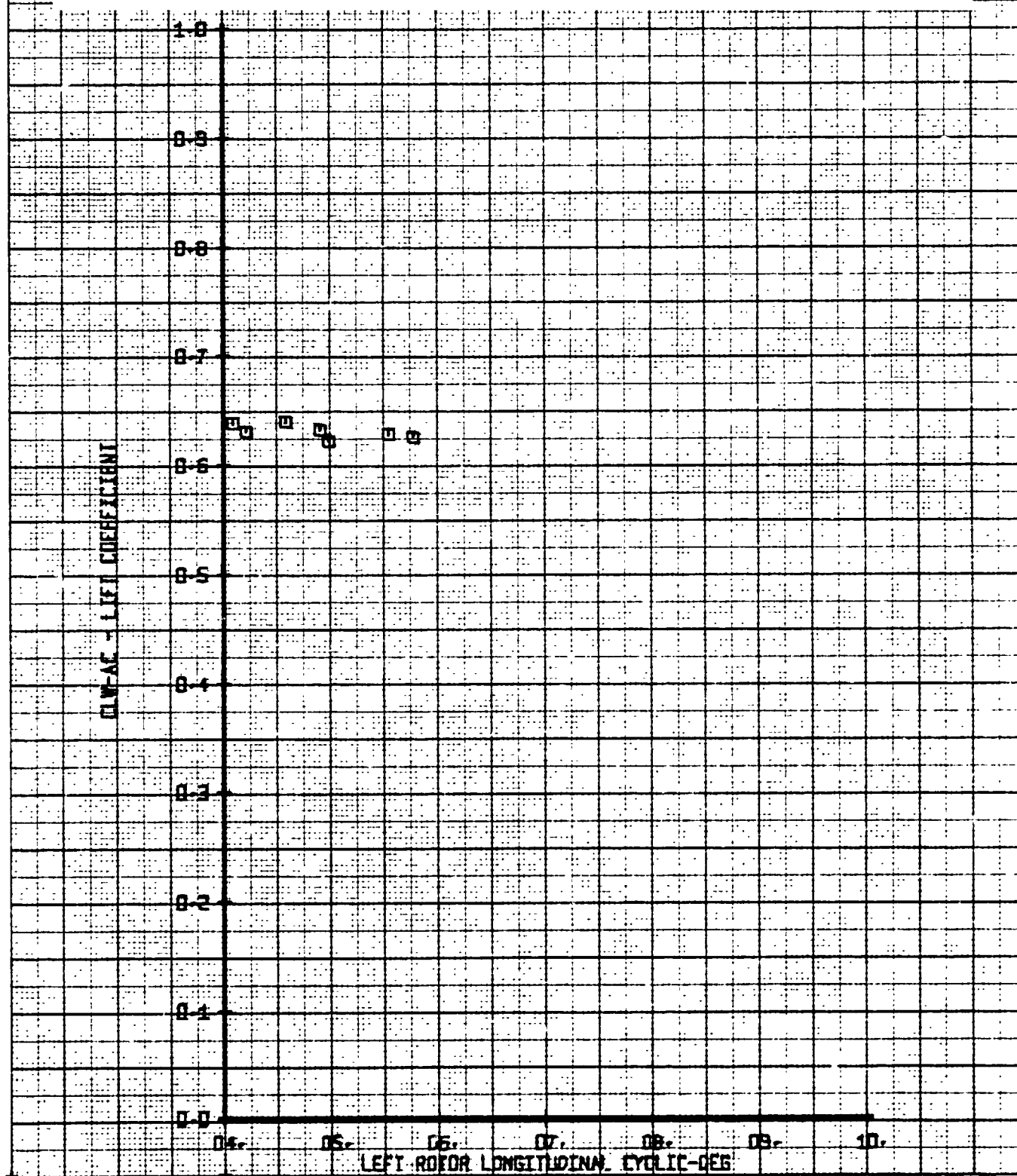
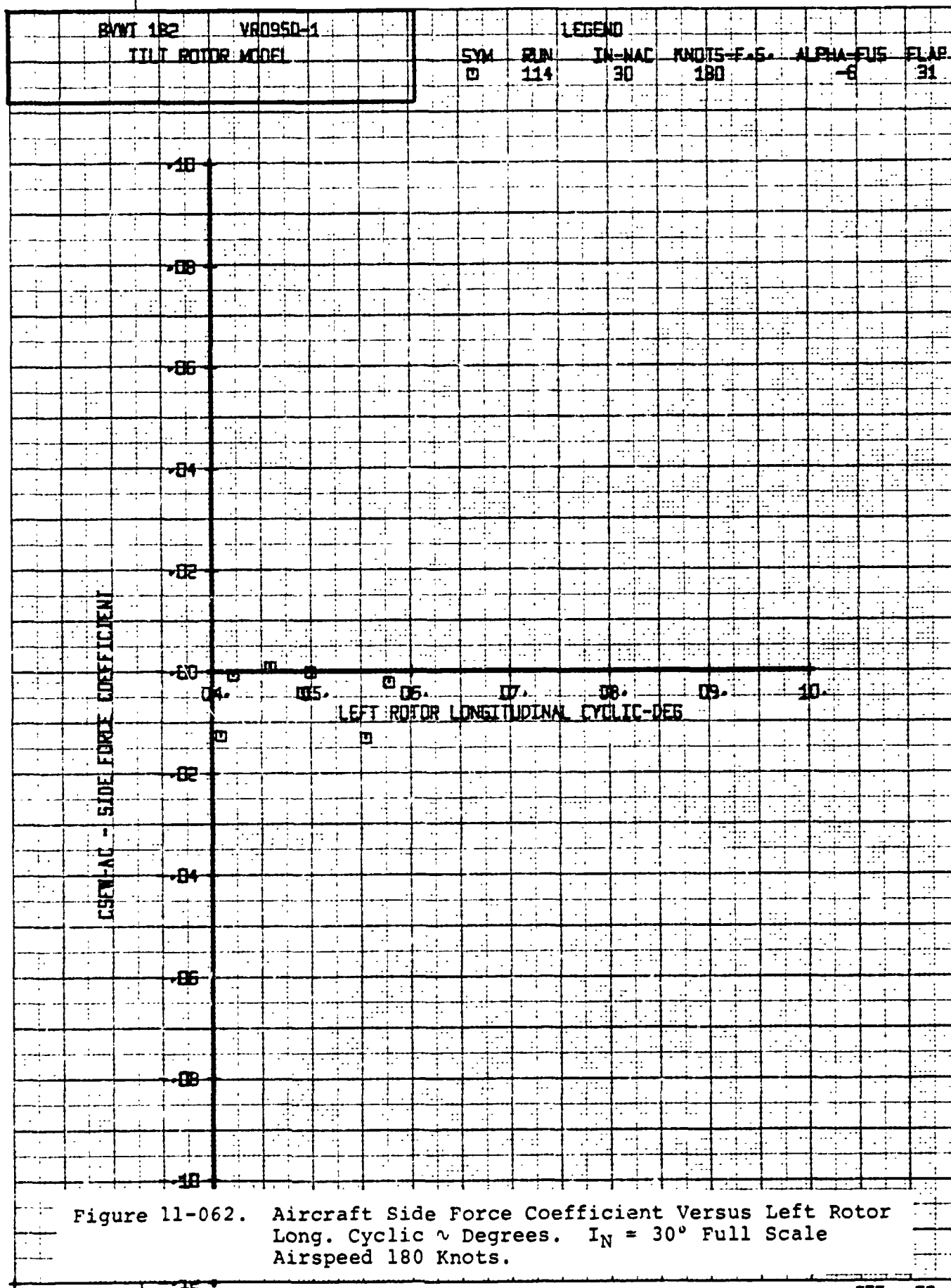


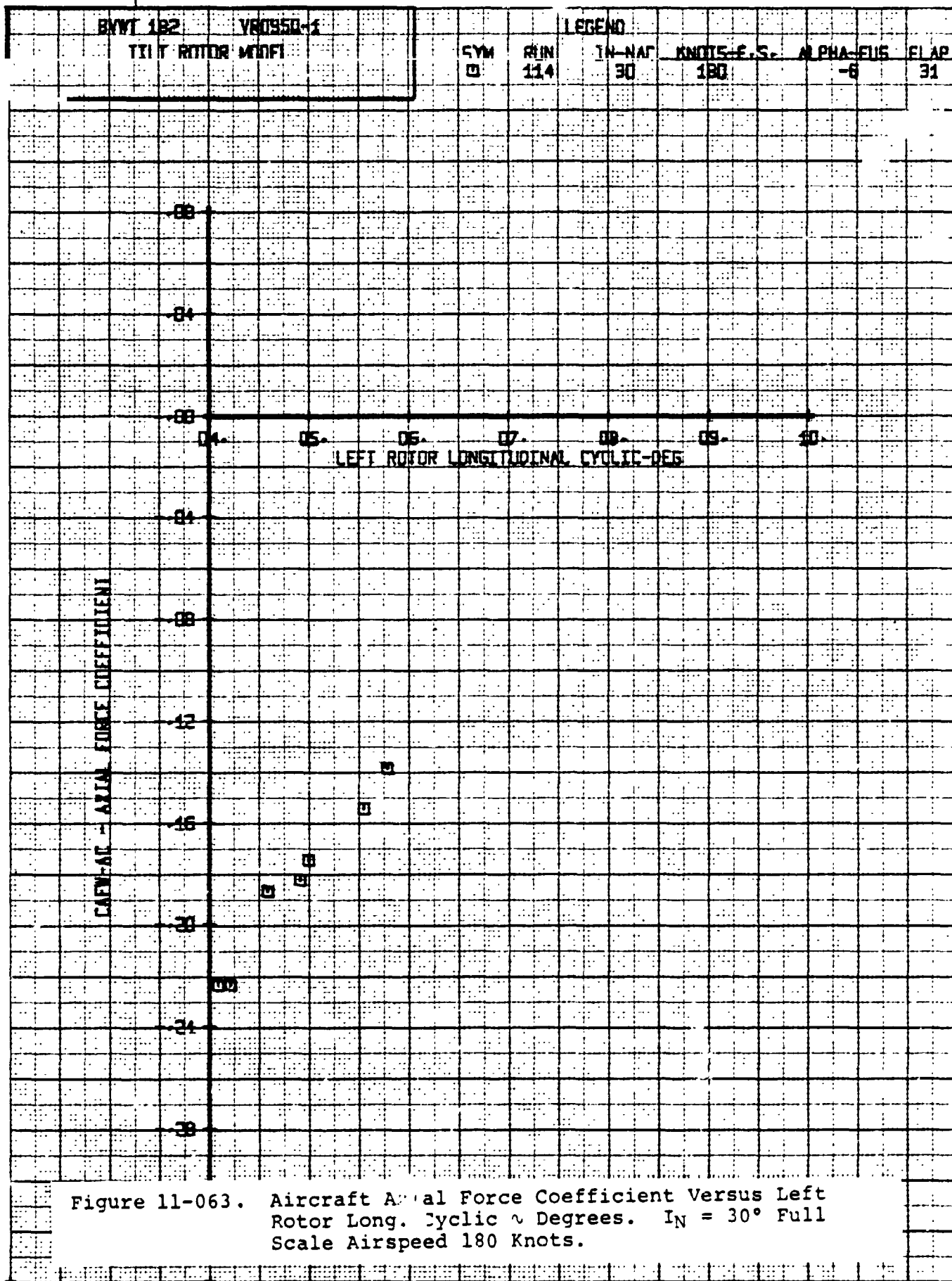
Figure 11-060. Right Rotor Yawing Moment Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

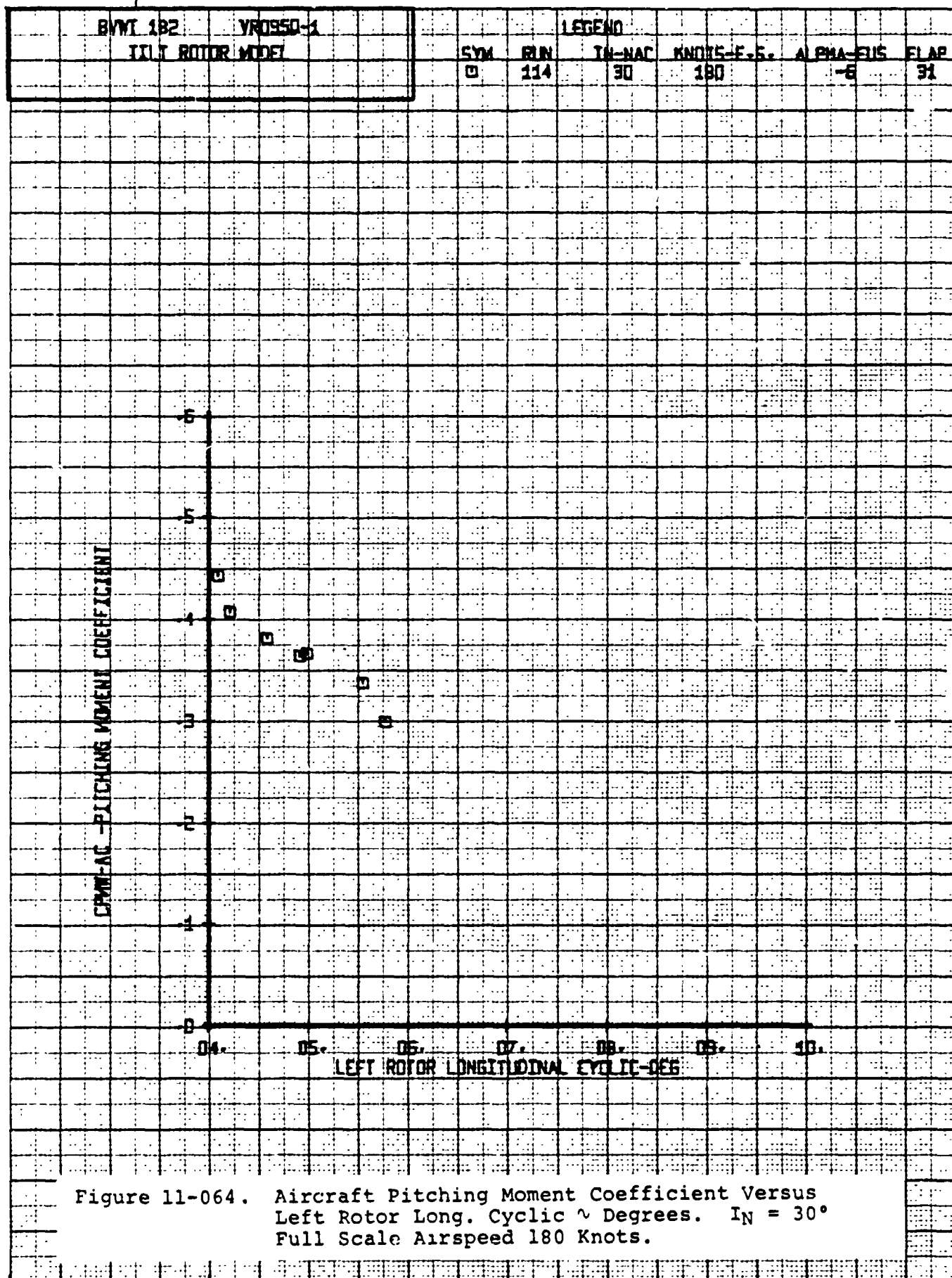
BVWT 182		VR0950-1		LEGEND			
TILT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-E.S.
				□	114	30	180
						ALPHA-ENS	FLAP
						-6	31

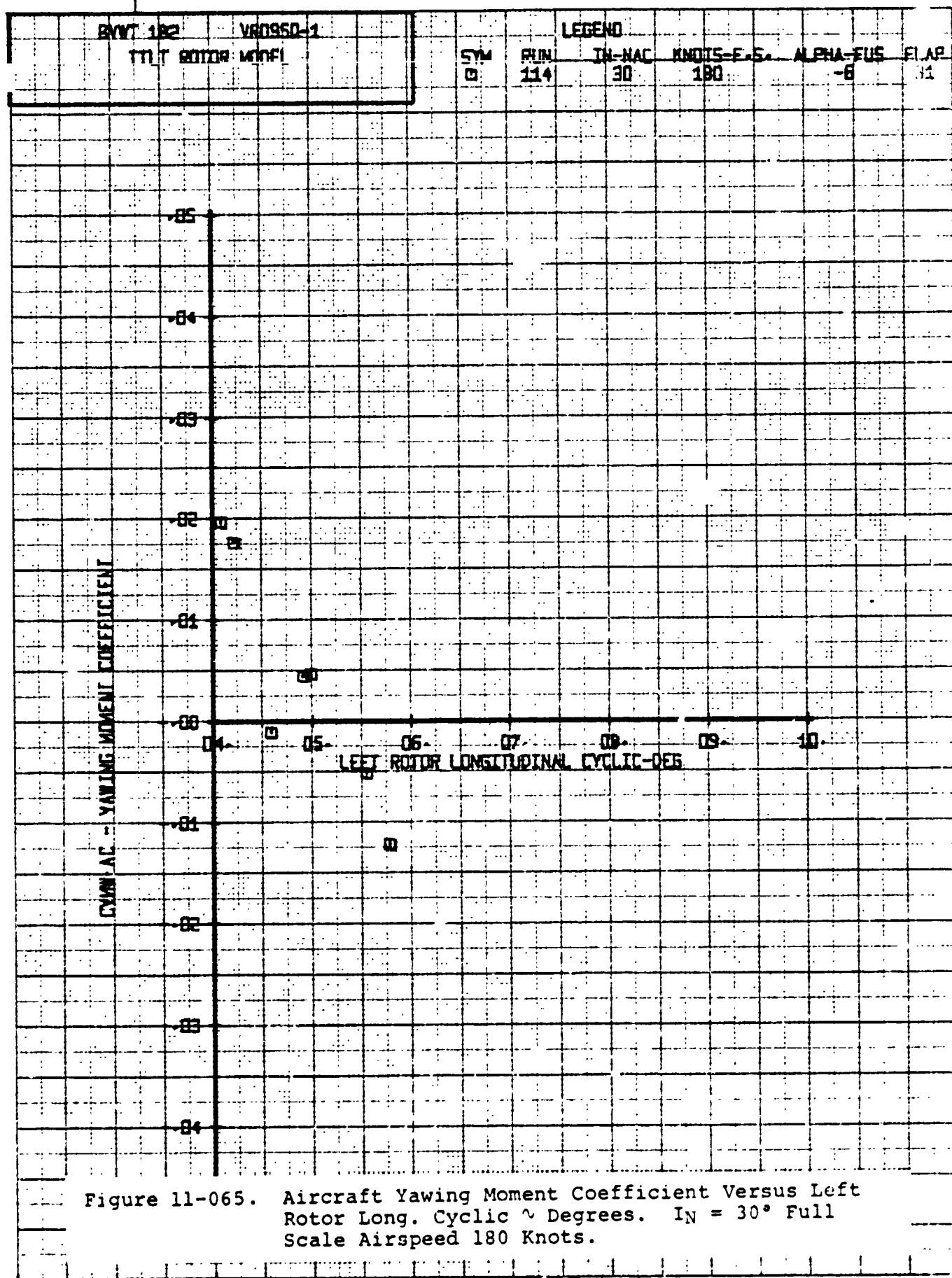
Figure 11-061. Aircraft Lift Coefficient Versus Left Rotor Long. Cyclic ψ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

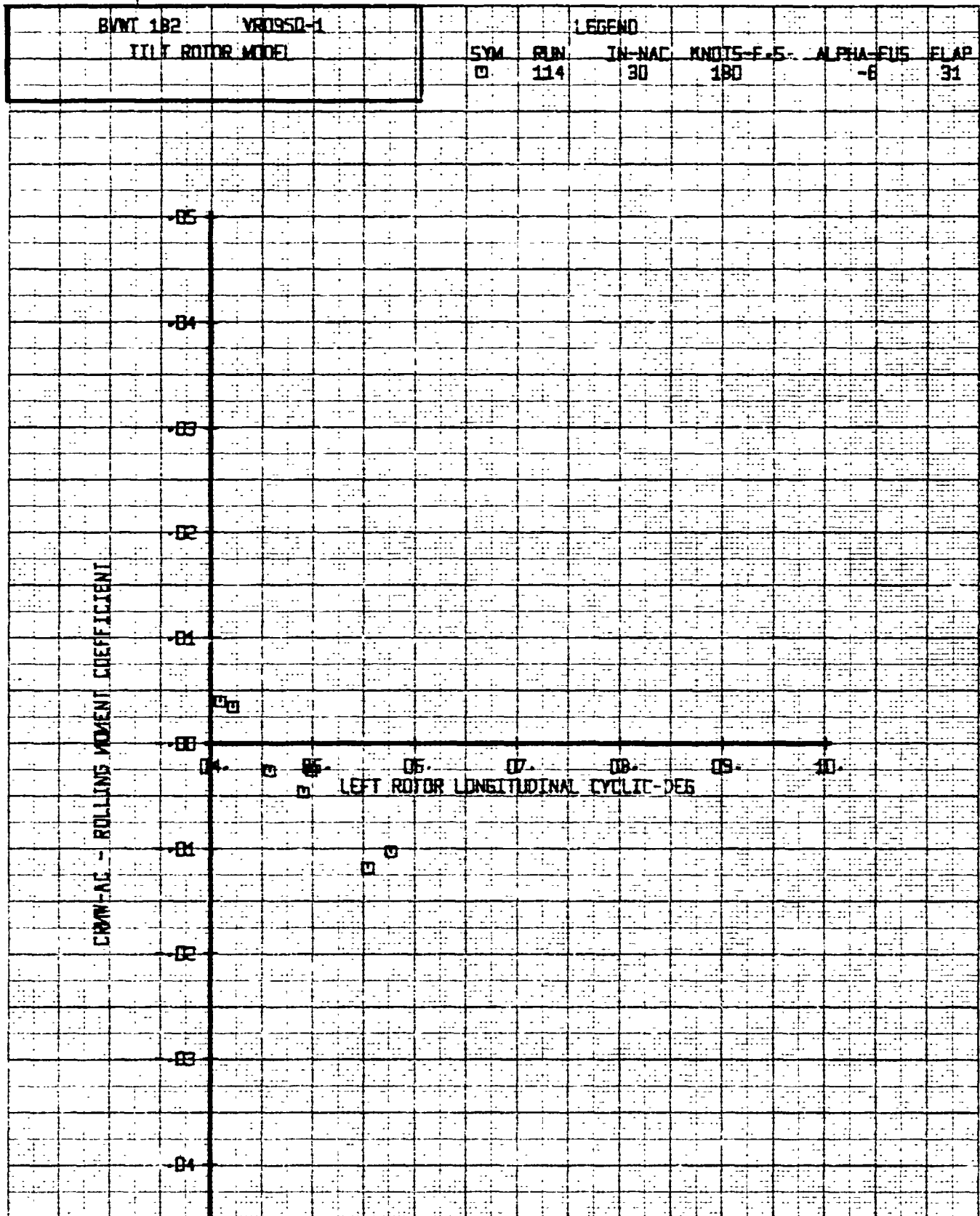


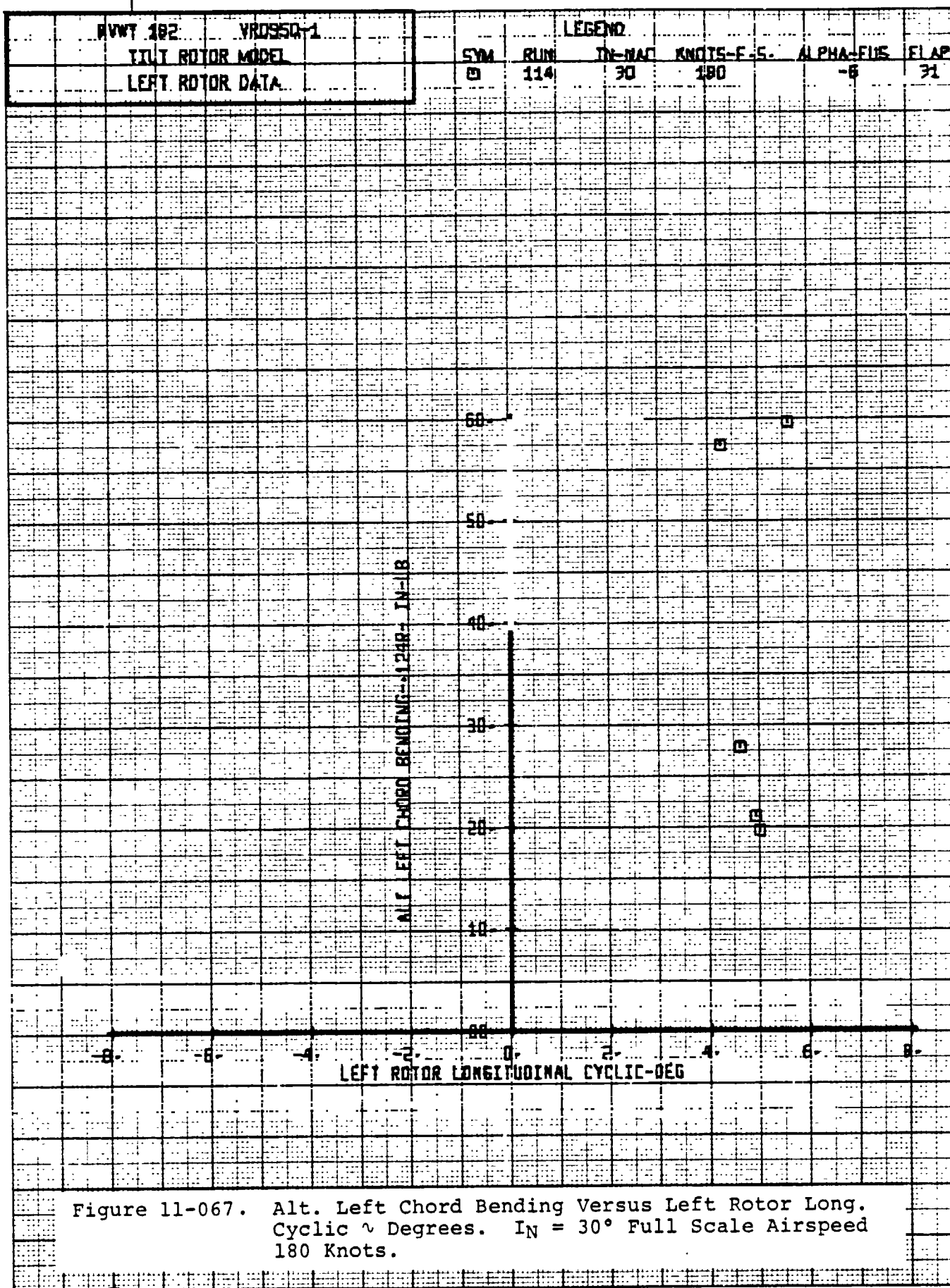






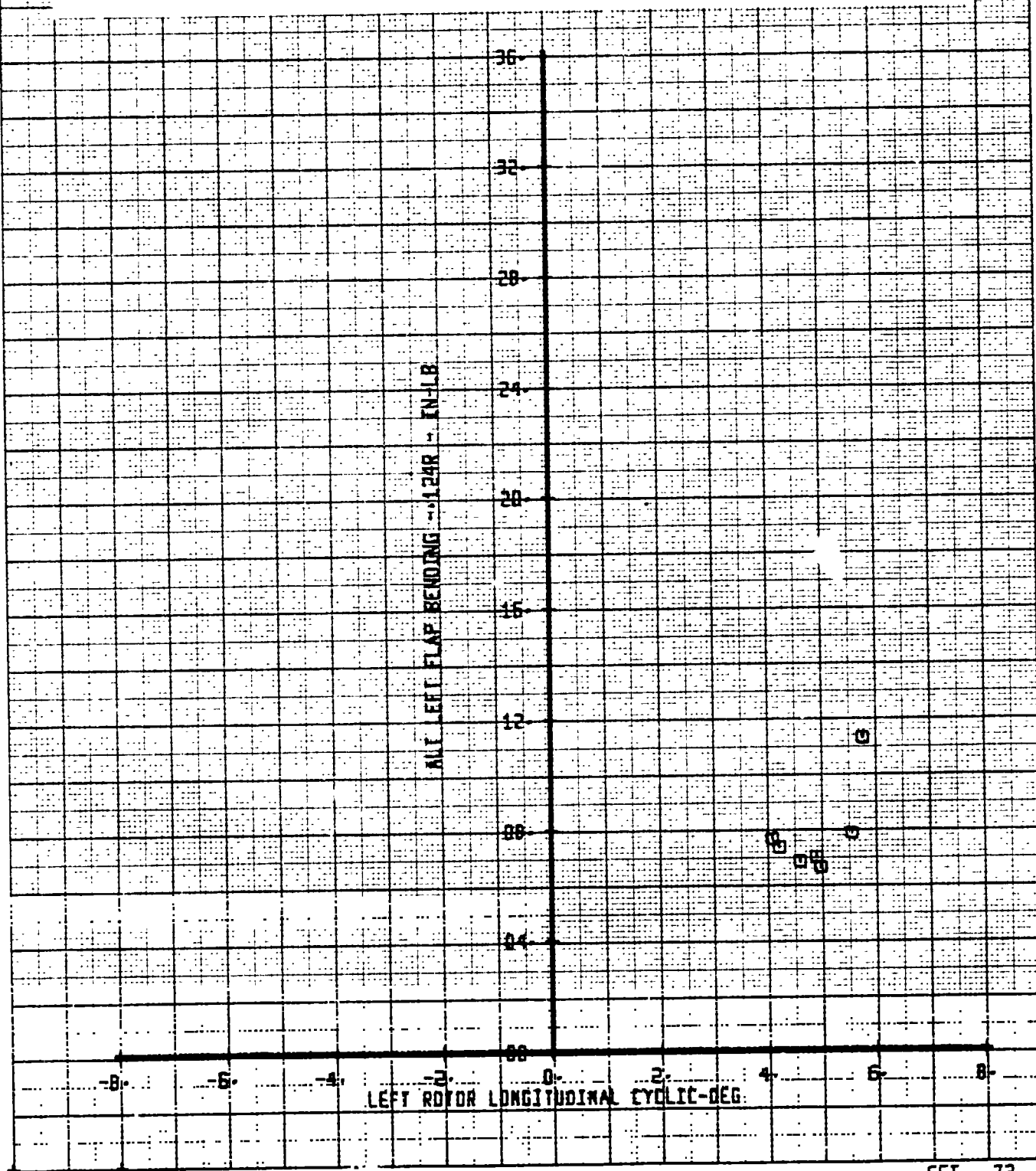






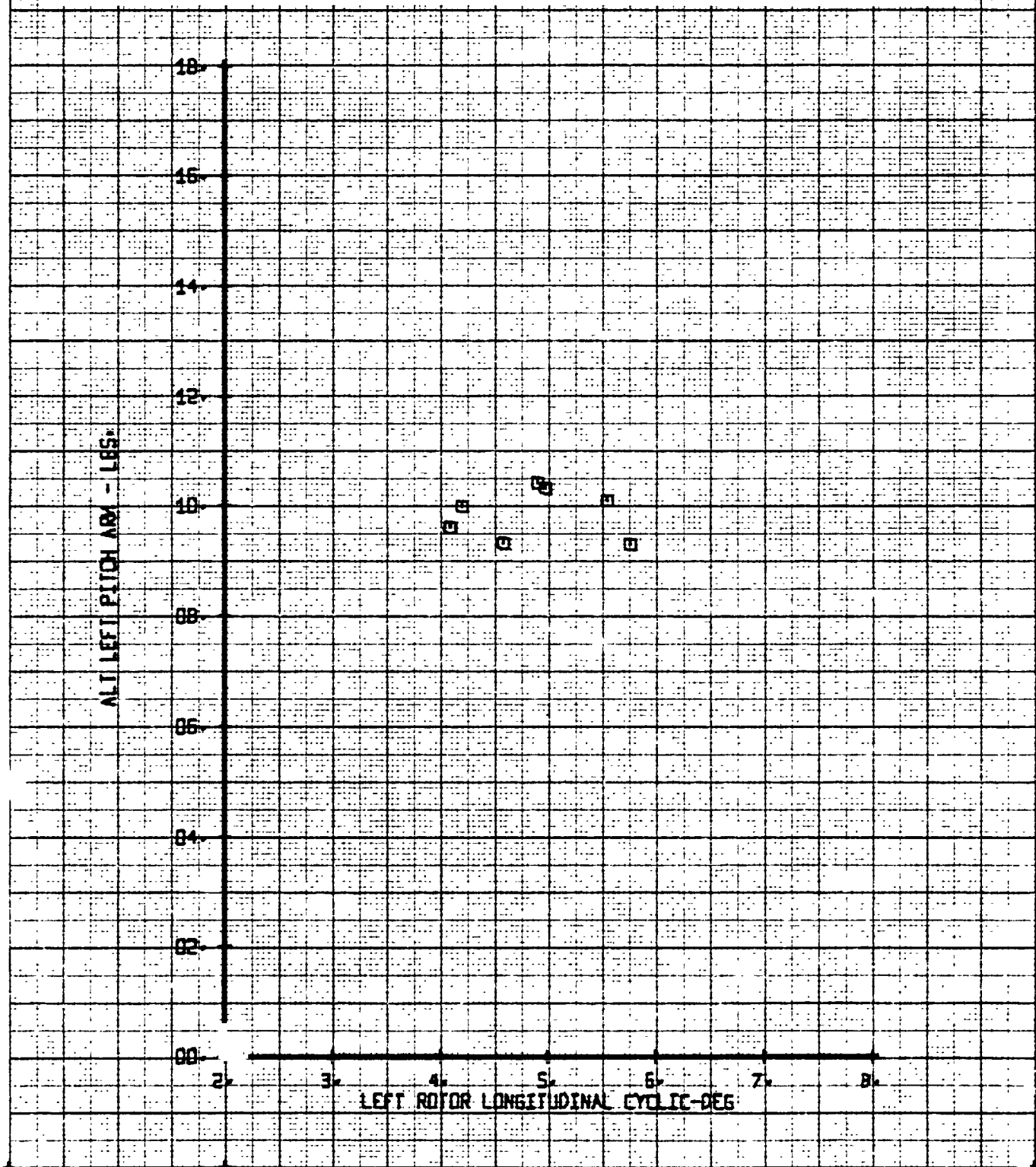
#YWT 182	VR0950-1	LEGEND					
TIU ROTOR MODE		SYM	RUN	IN-NAR	KNOTS-F.S.	ALPHA-EUS	FLAP
LEFT ROTOR DATA		<input checked="" type="checkbox"/>	114	30	180	-6	31

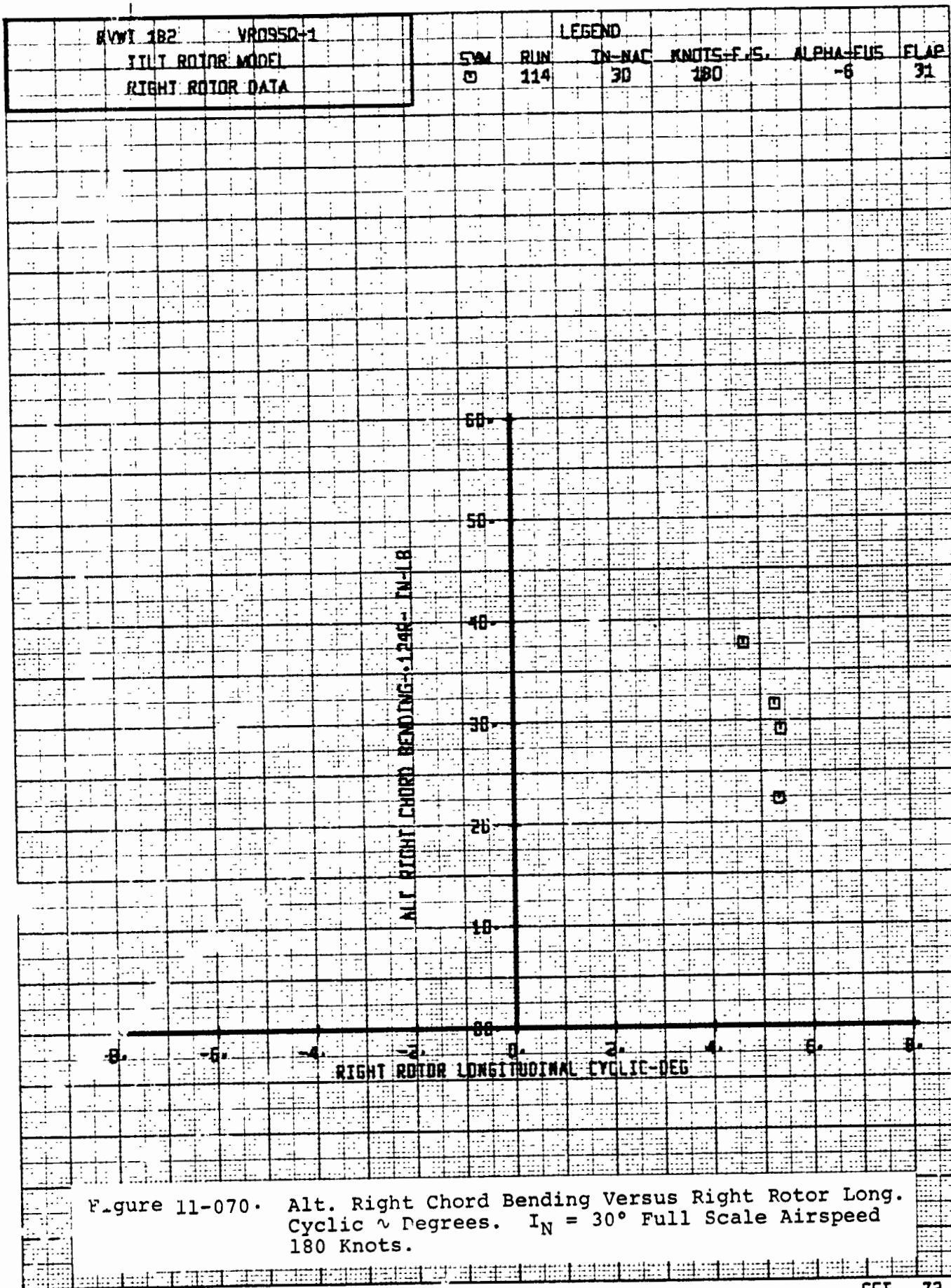
Figure 11-068. Alt. Left Flap Bending Versus Left Rotor Long.
Cyclic ~ Degrees. IN = 30° Full Scale Airspeed
180 Knots.



BVWT 182	VROSSO-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	114	30	180	-6
						31

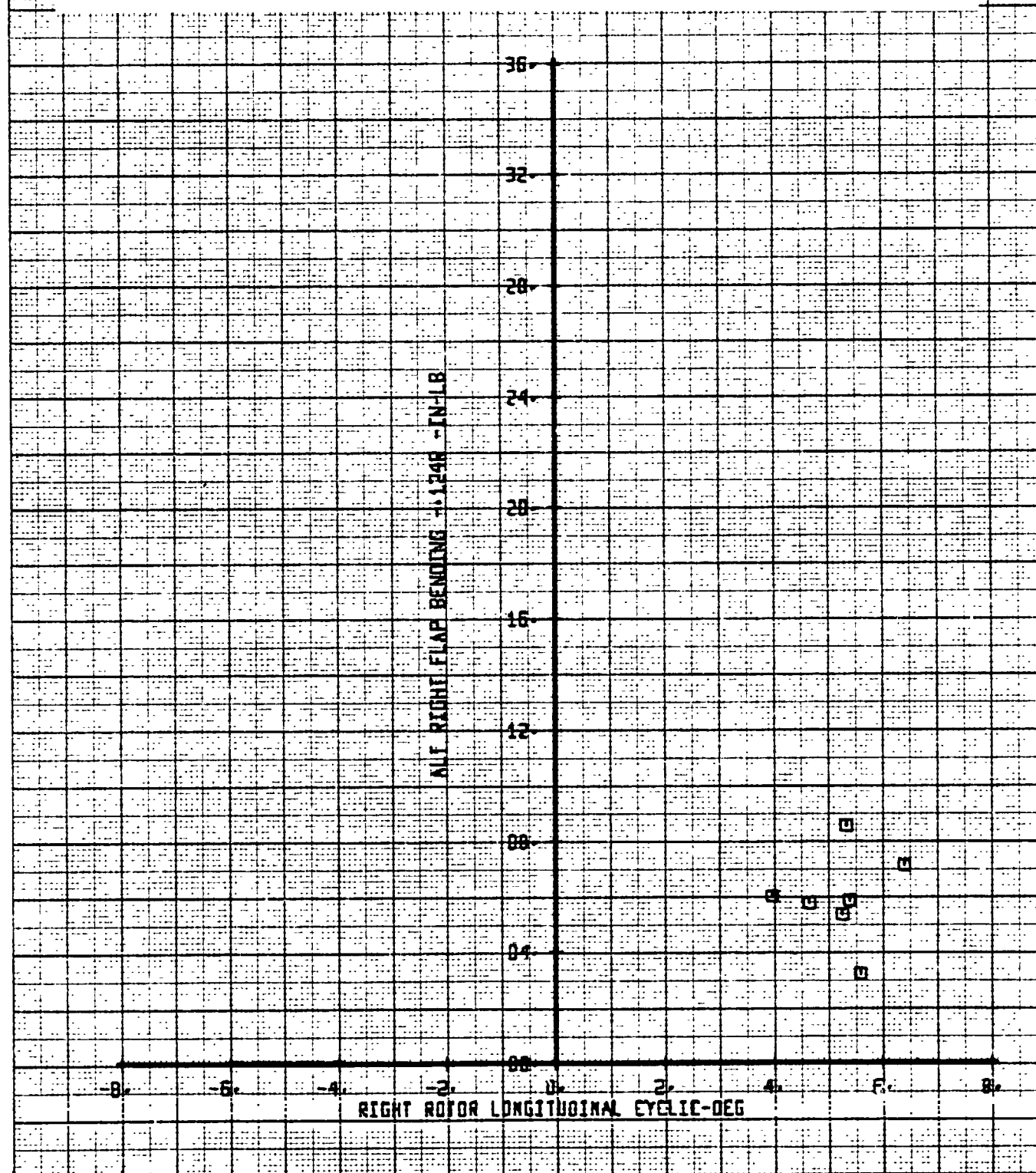
Figure 11-069. Alt. Left Pitch Link Load Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

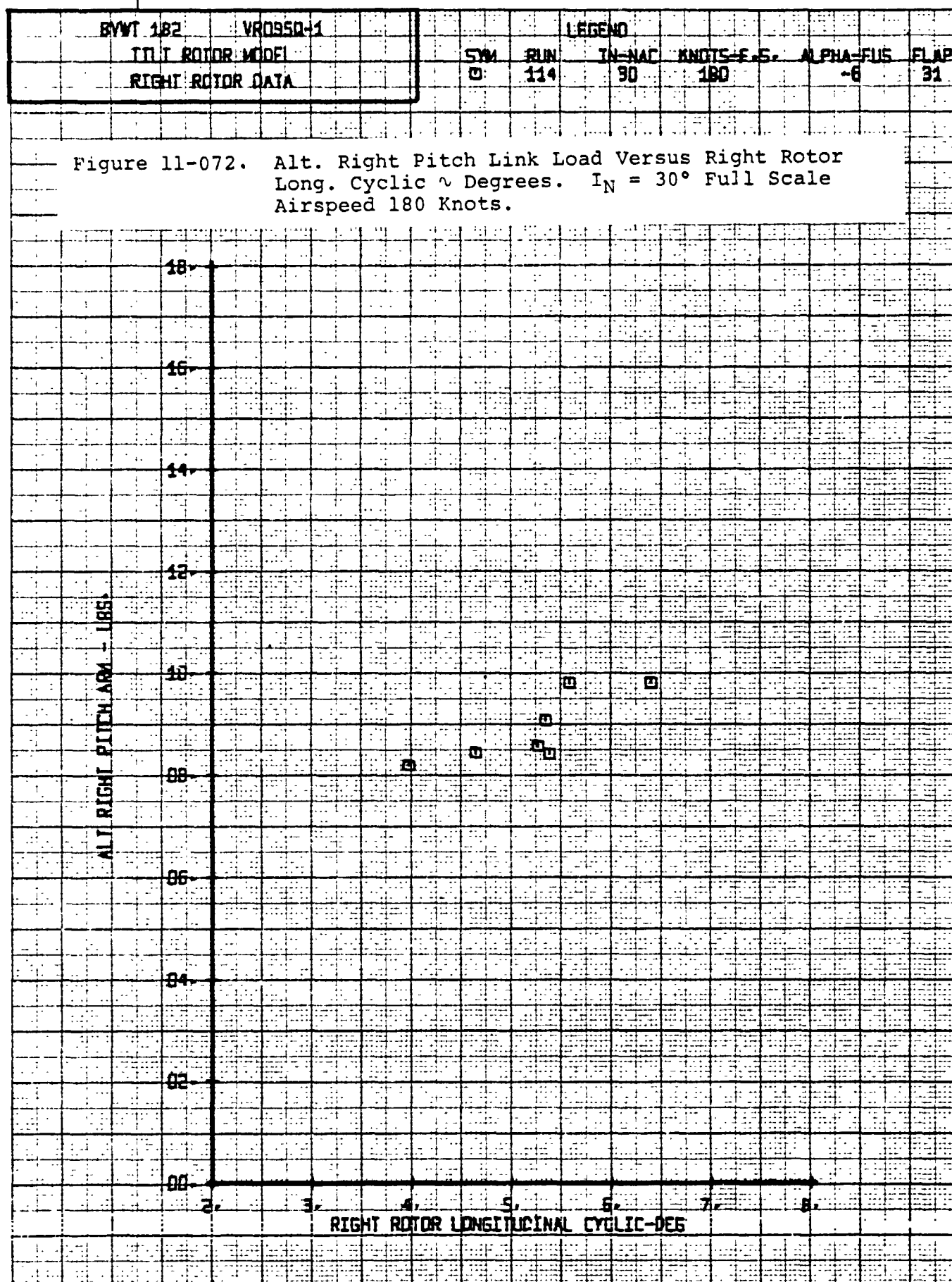




BVWT 182	VROSSQ-1	LEGEND				
YILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-E.S.	ALPHA-EUS
RIGHT ROTOR DATA		□	114	30	180	-6
						FLAP 31

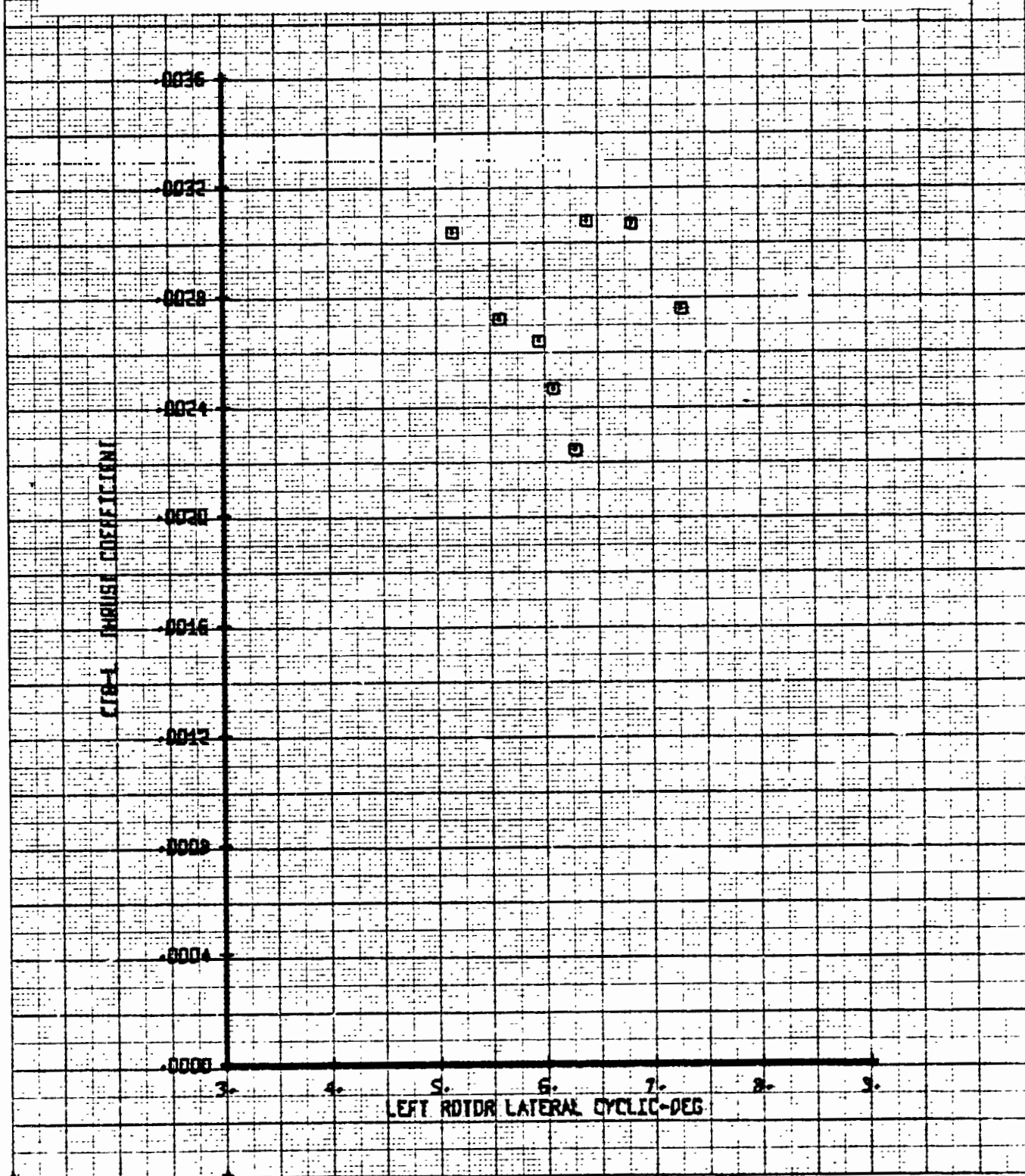
Figure 11-071. Alt. Right Flap Bending Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





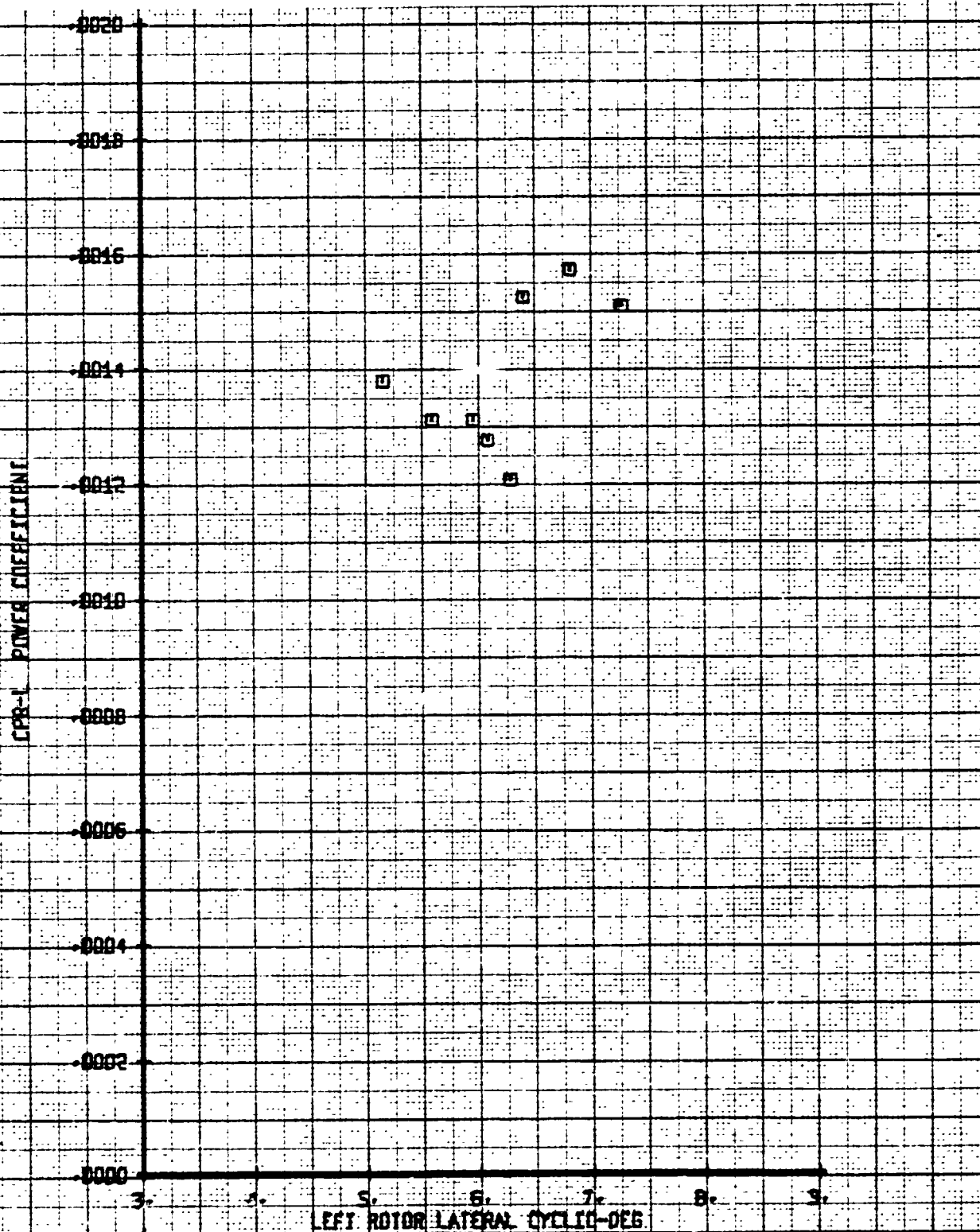
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	113	30	100	-6
						FLAP 31

Figure 11-073. Left Rotor Thrust Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.



BWVT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FLS
LEFT ROTOR DATA		□	113	30	180	-6
						31

Figure 11-074. Left Rotor Power Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.



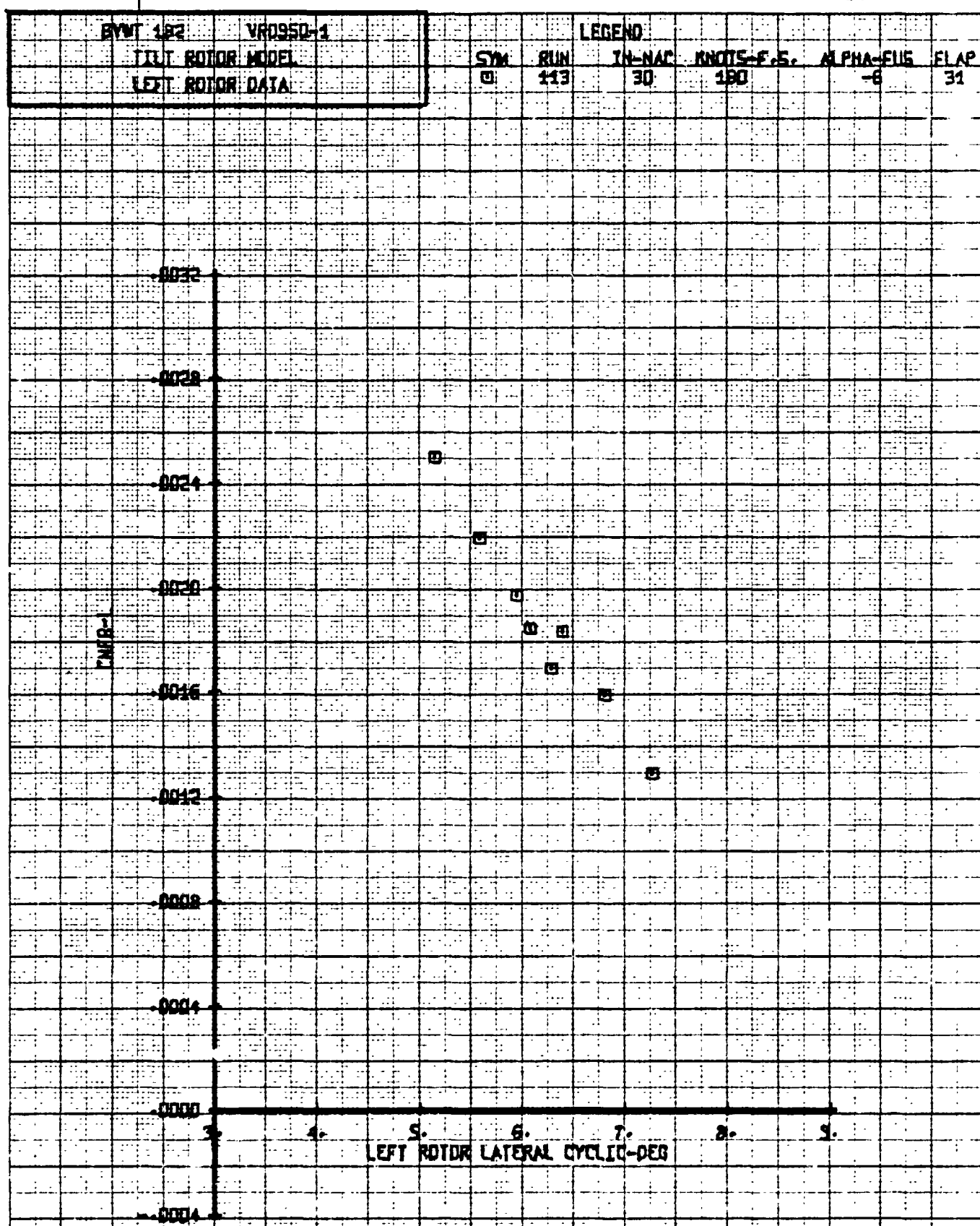
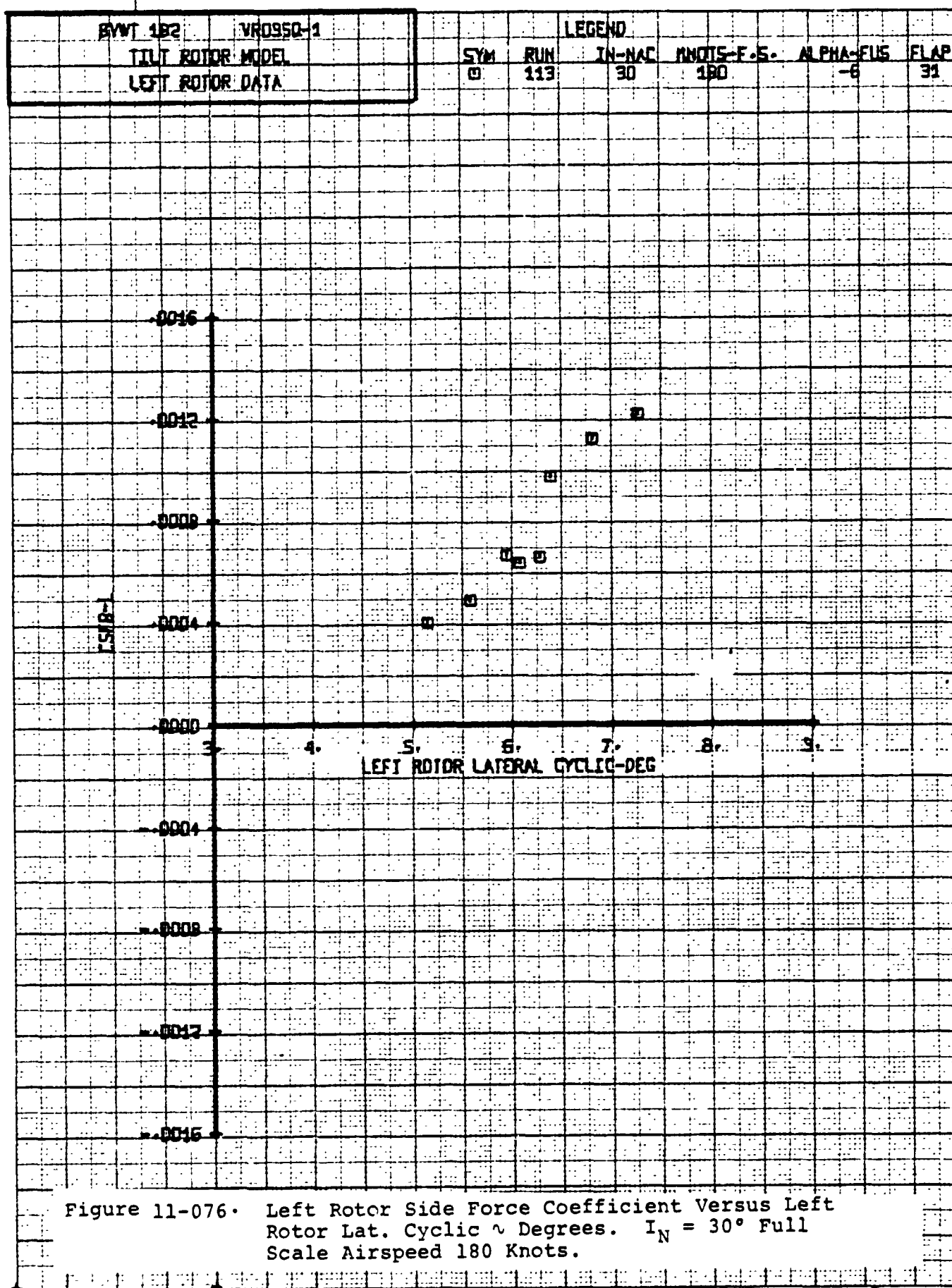
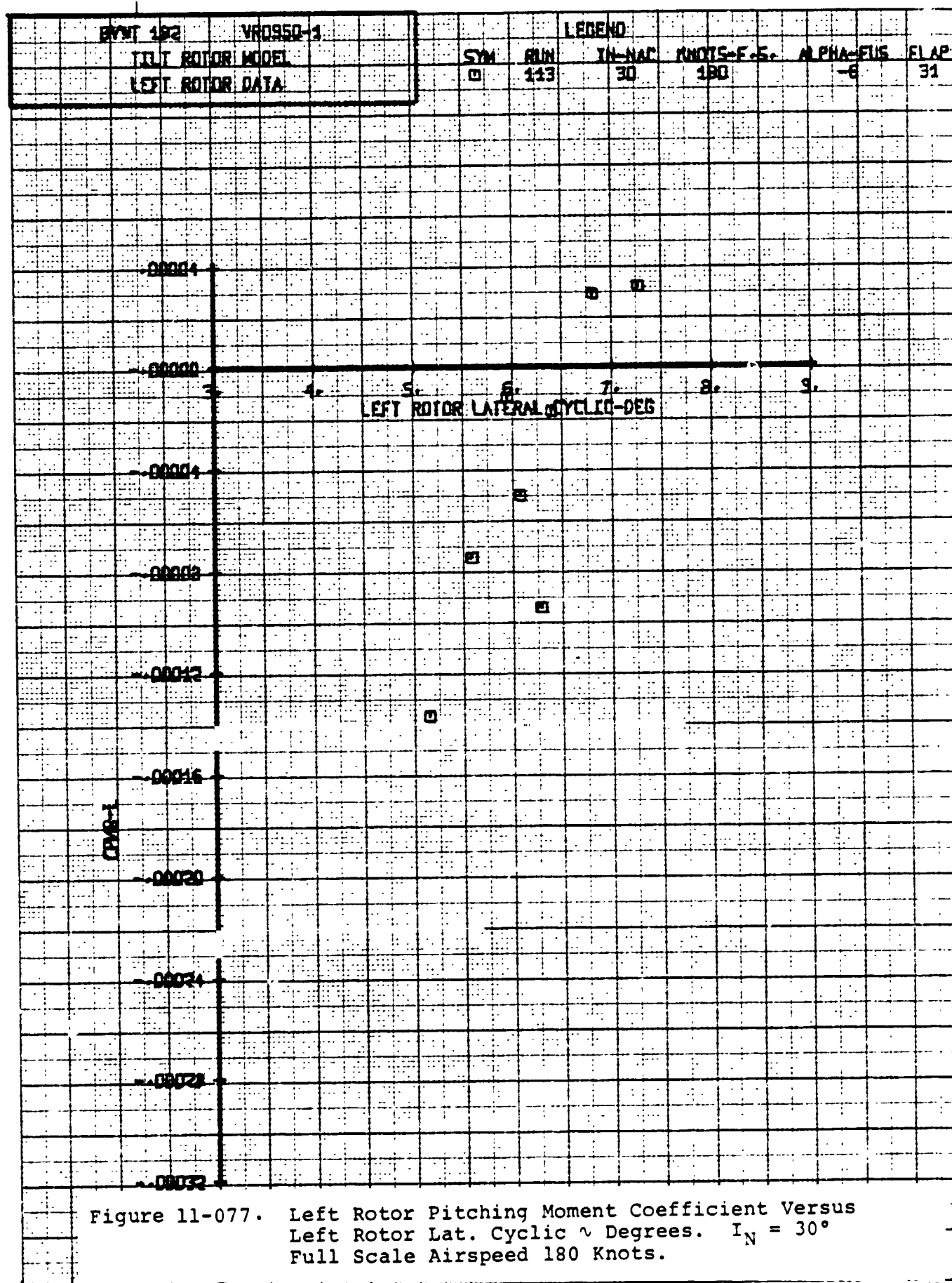
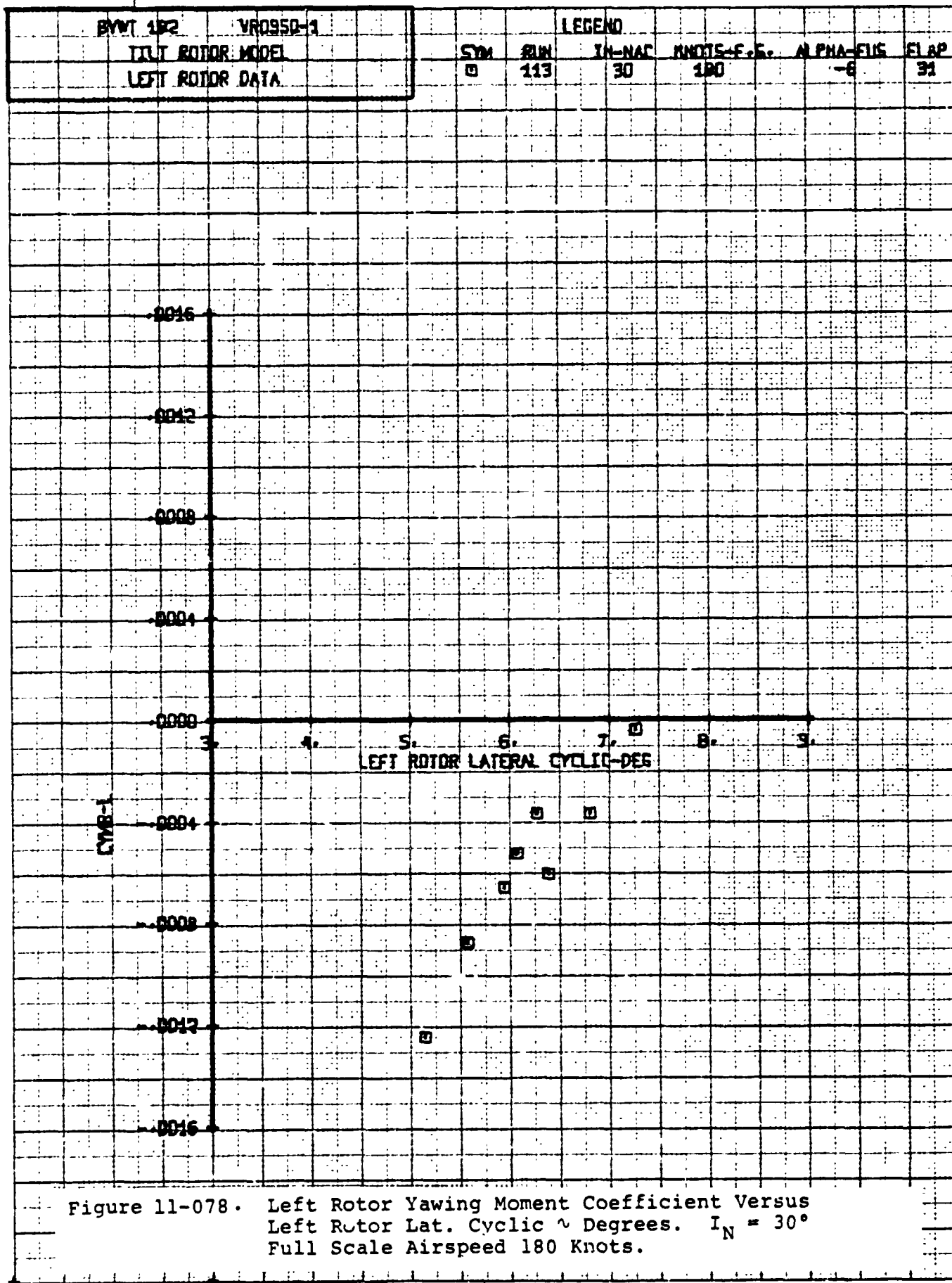
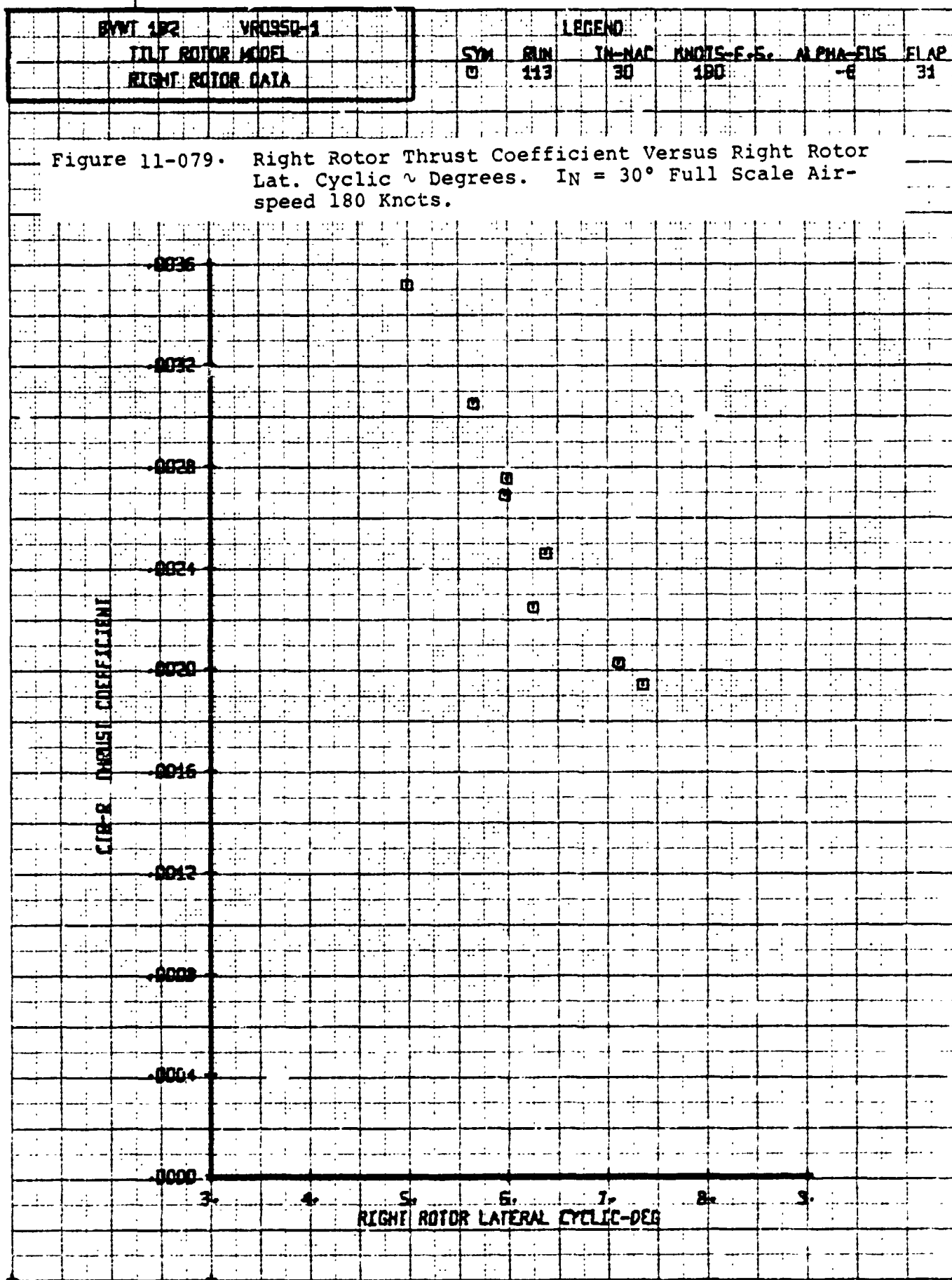


Figure 11-075. Left Rotor Normal Force Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



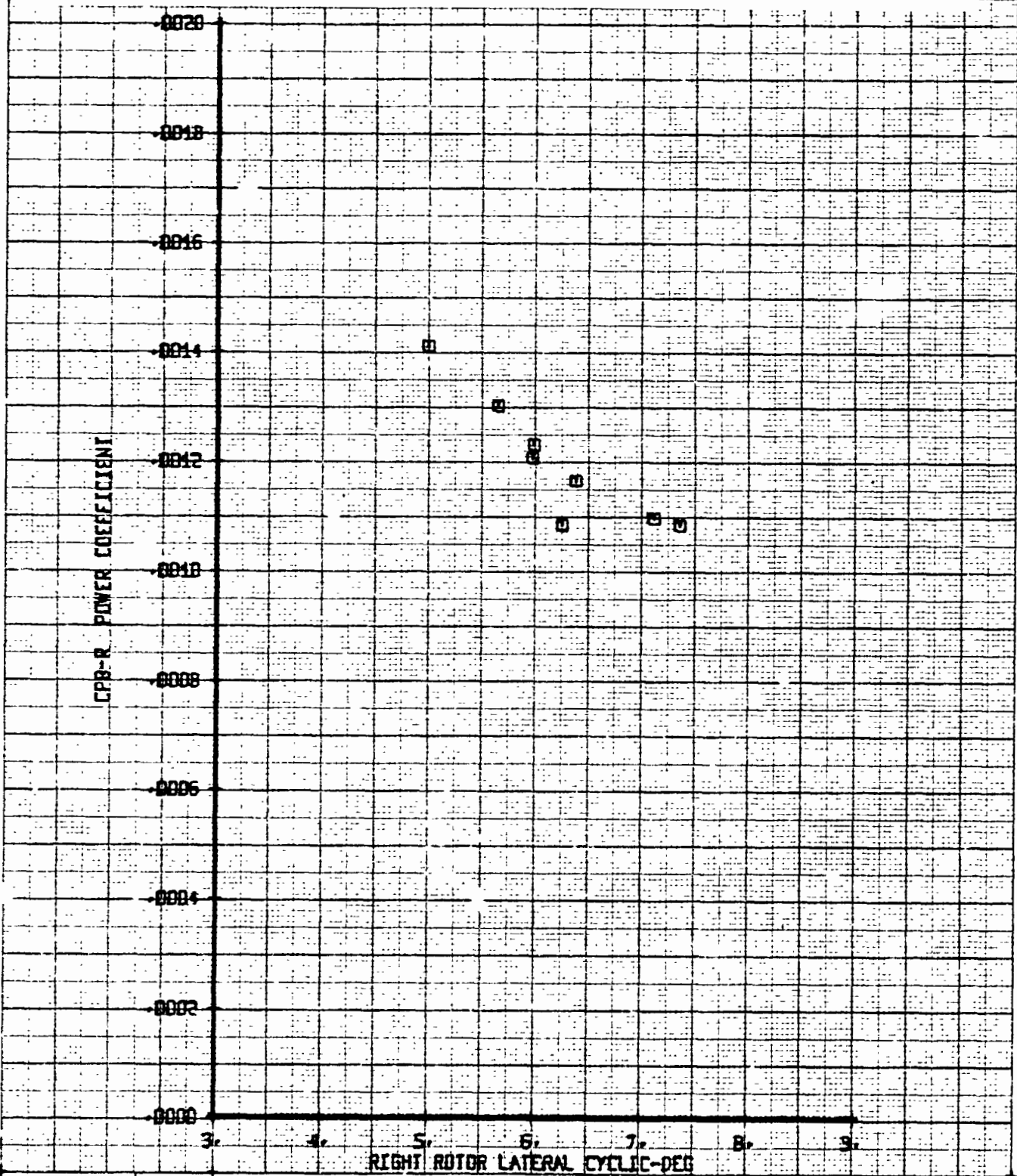






BVWT 182		VRU950-1		LEGEND			
LEFT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-F.S.
RIGHT ROTOR DATA				□	113	30	180
						ALPHA-FUS	FLAP
						-6	31

Figure 11-080. Right Rotor Power Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. IN = 30° Full Scale Airspeed 180 Knots.



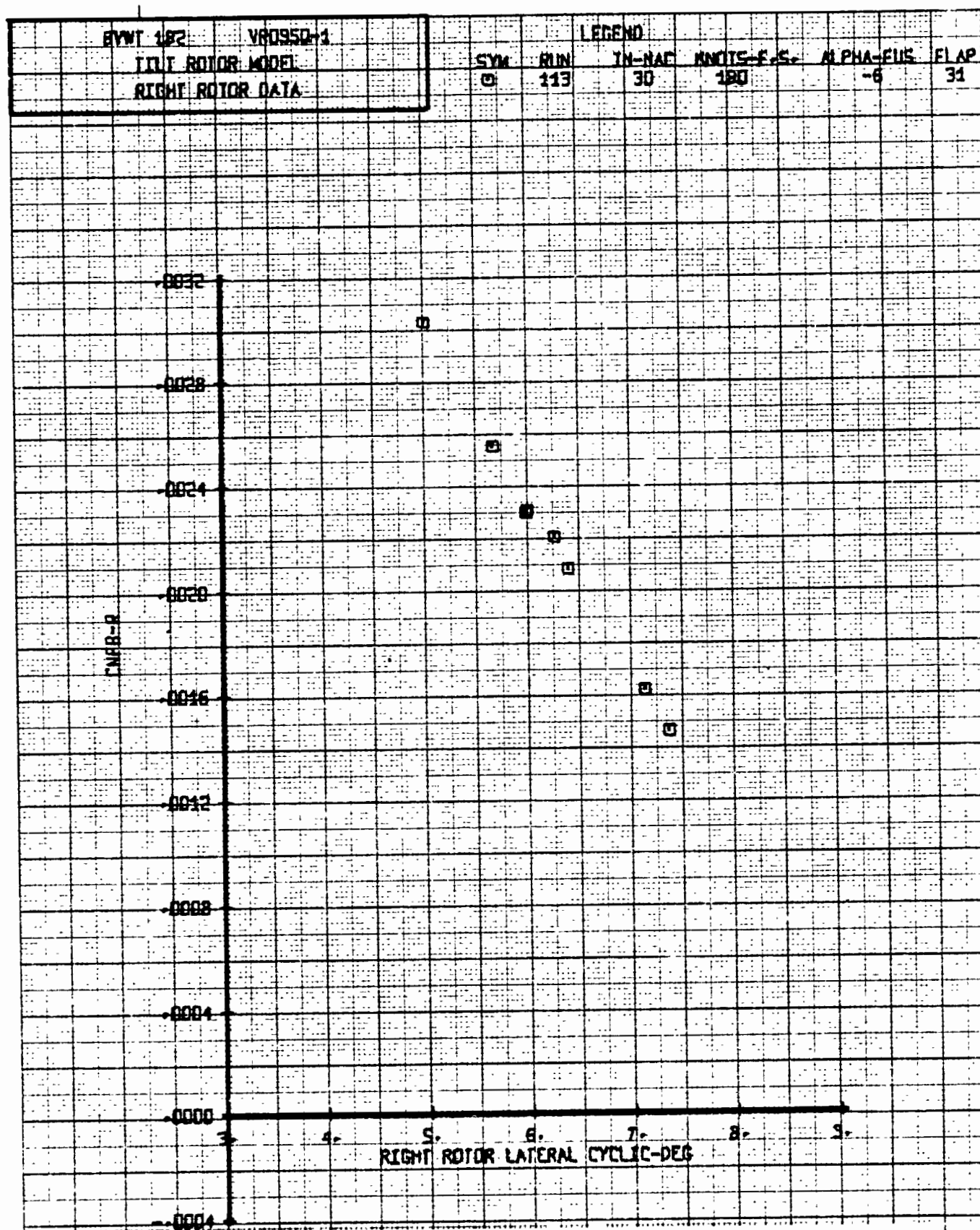


Figure 11-081. Right Rotor Normal Force Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

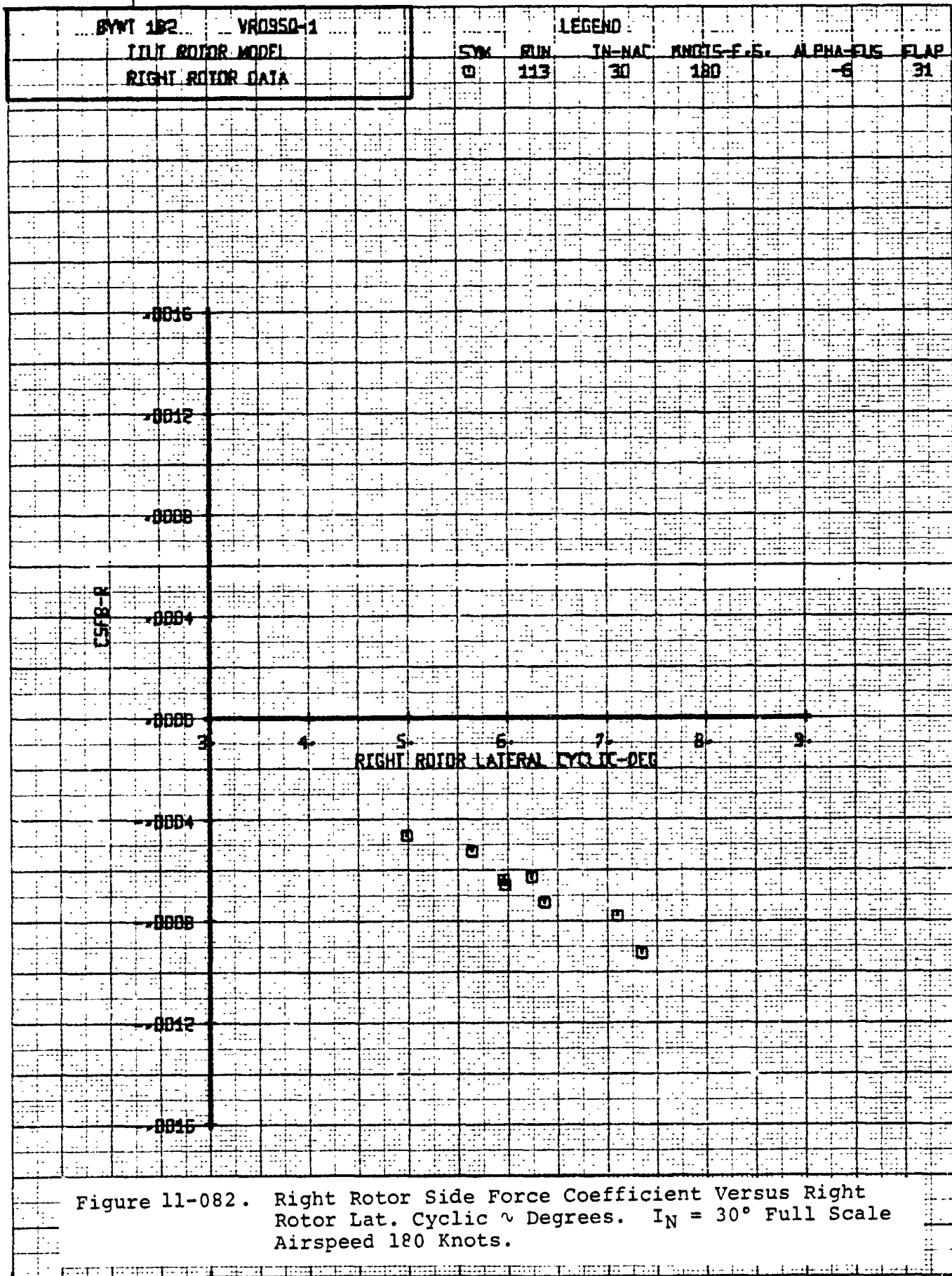
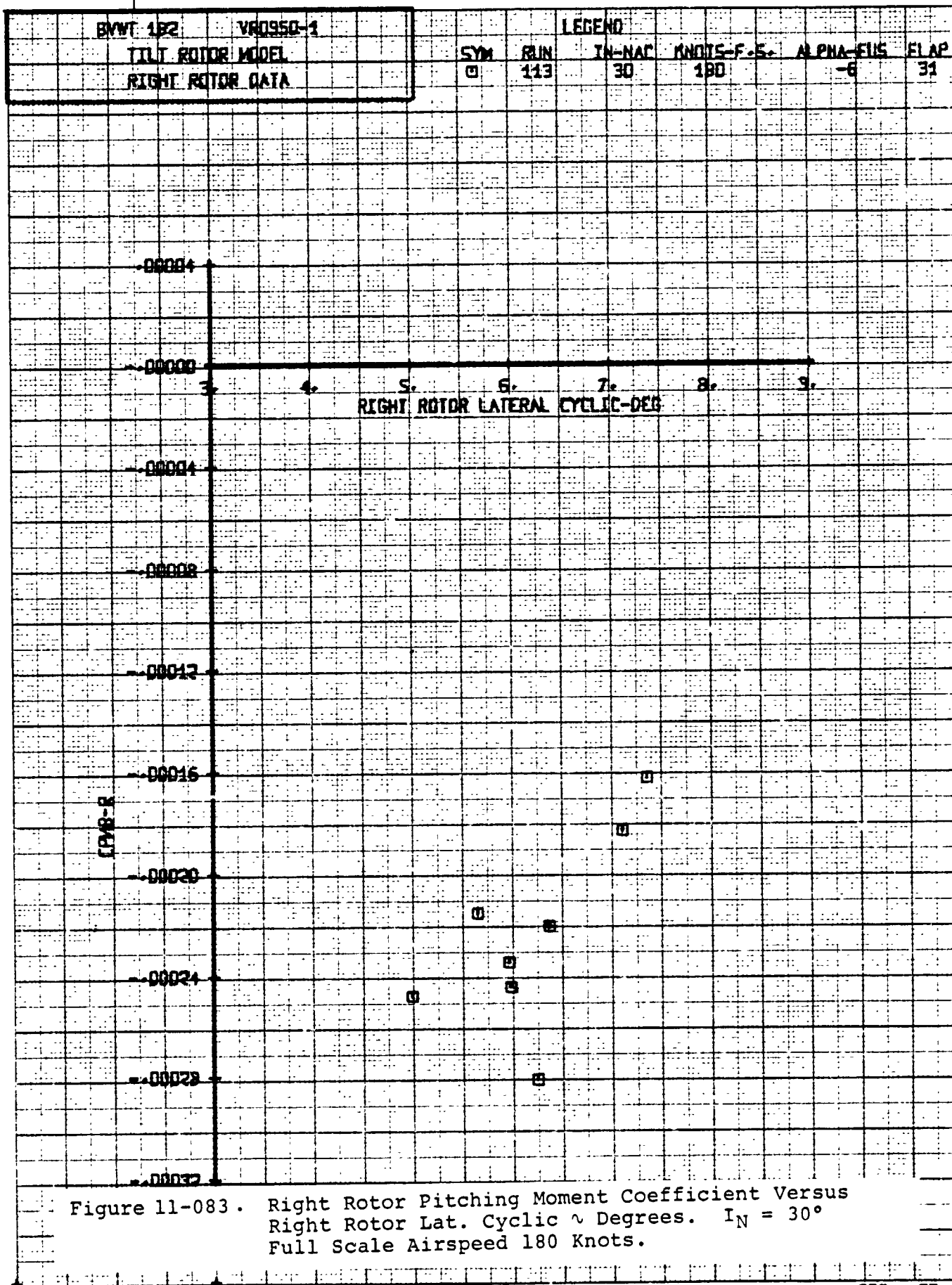
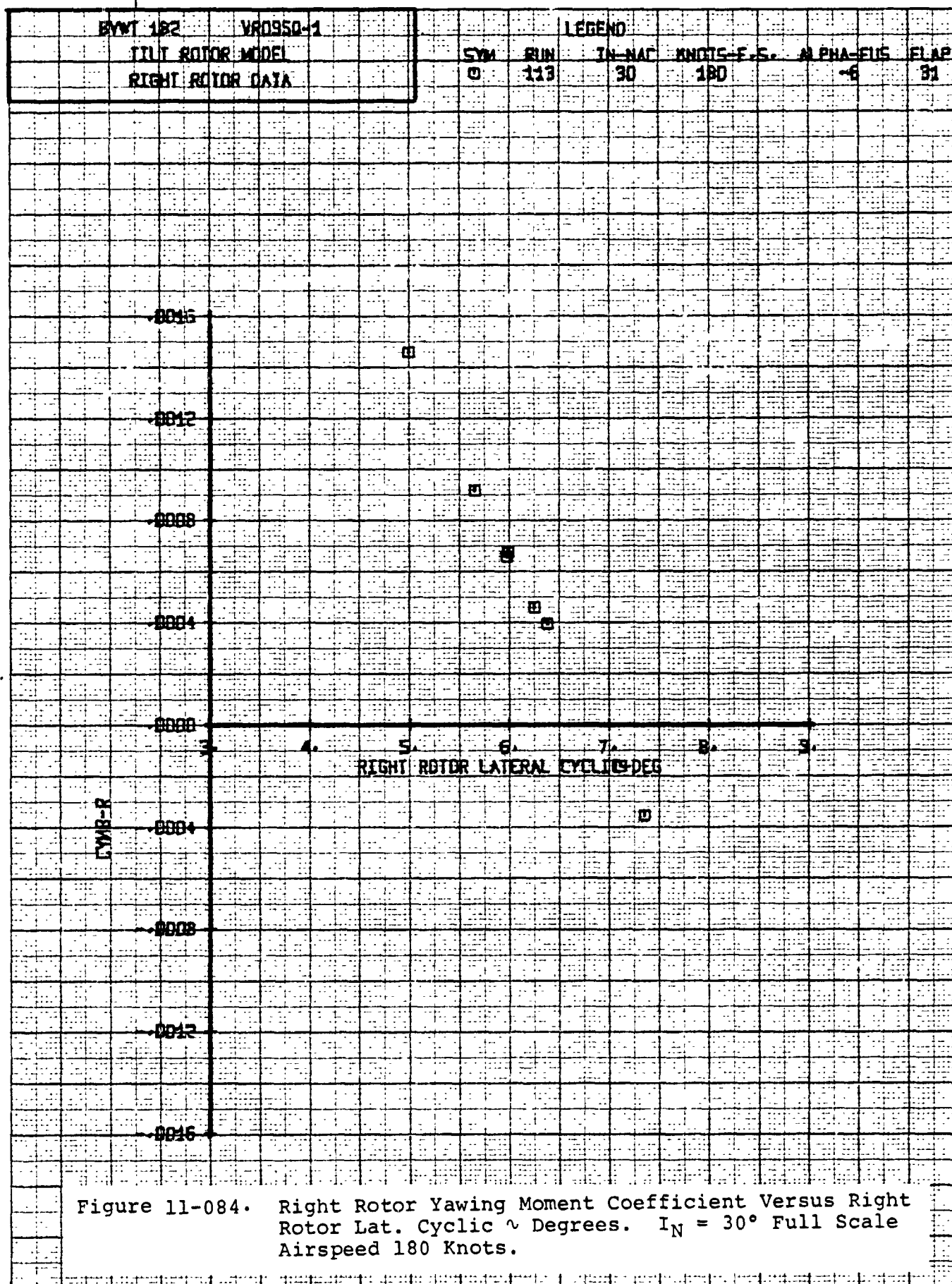


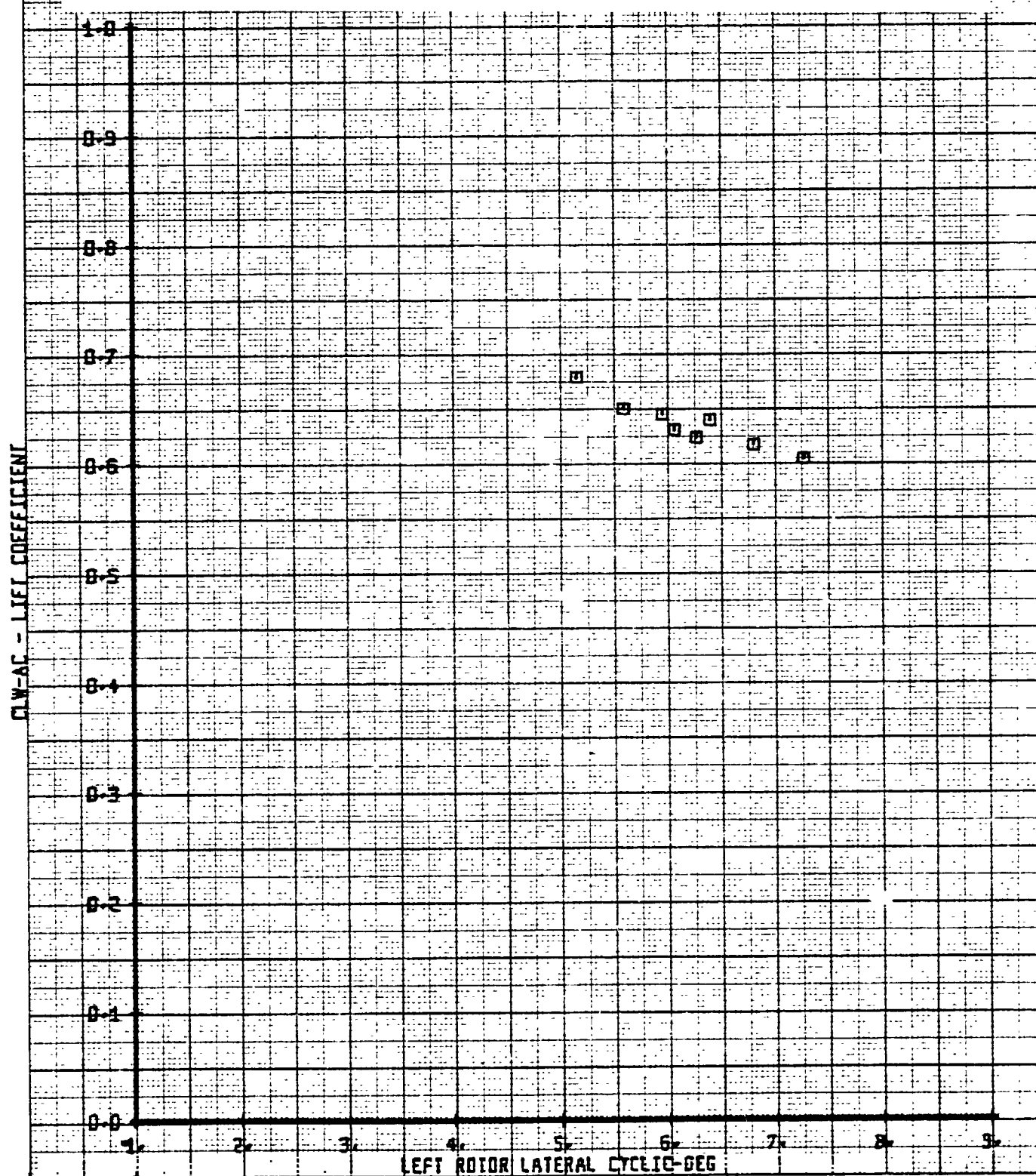
Figure 11-082. Right Rotor Side Force Coefficient Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

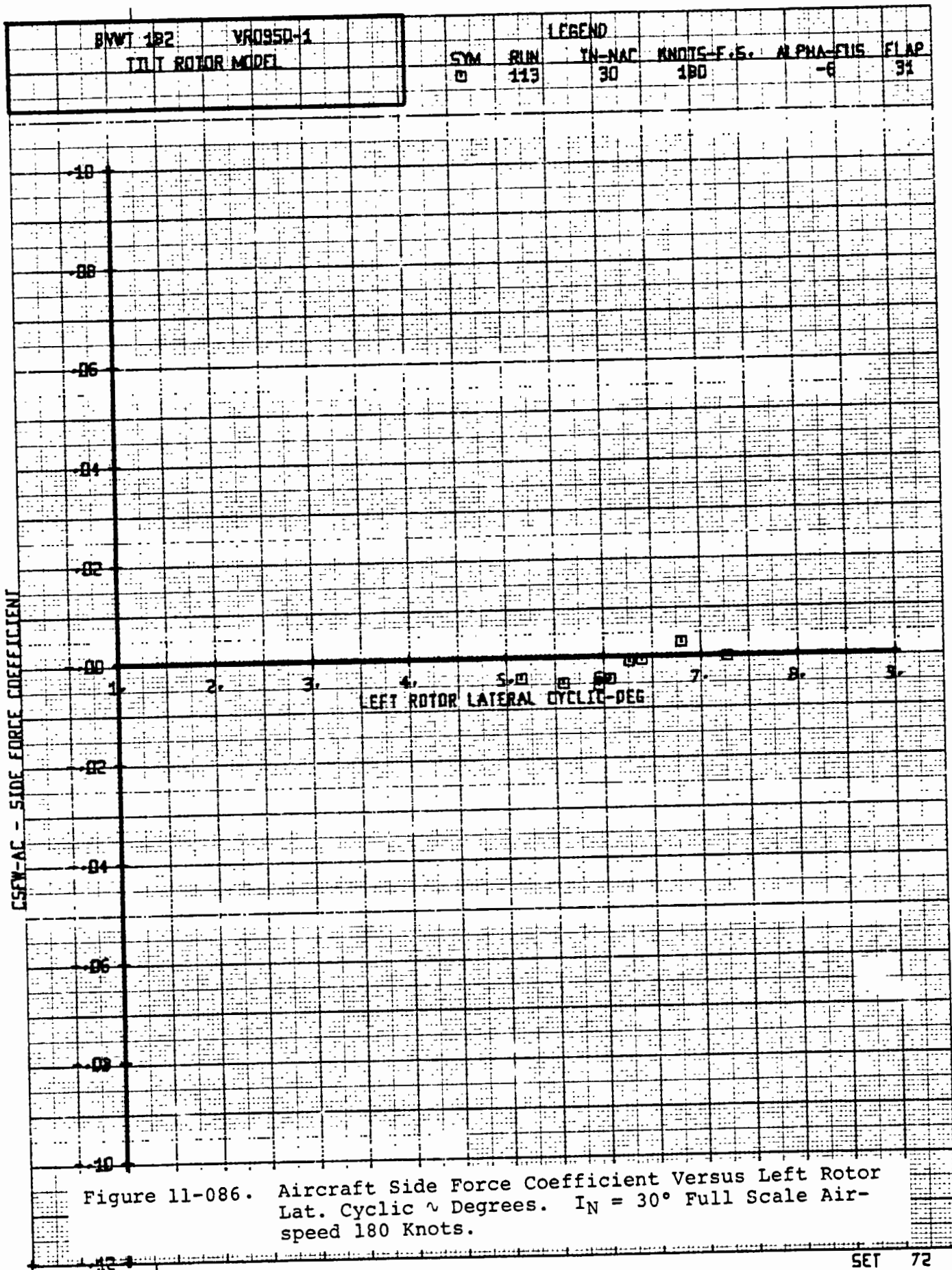




BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	PRN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
		□	113	30	180	-6
						31

Figure 11-085. Aircraft Lift Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





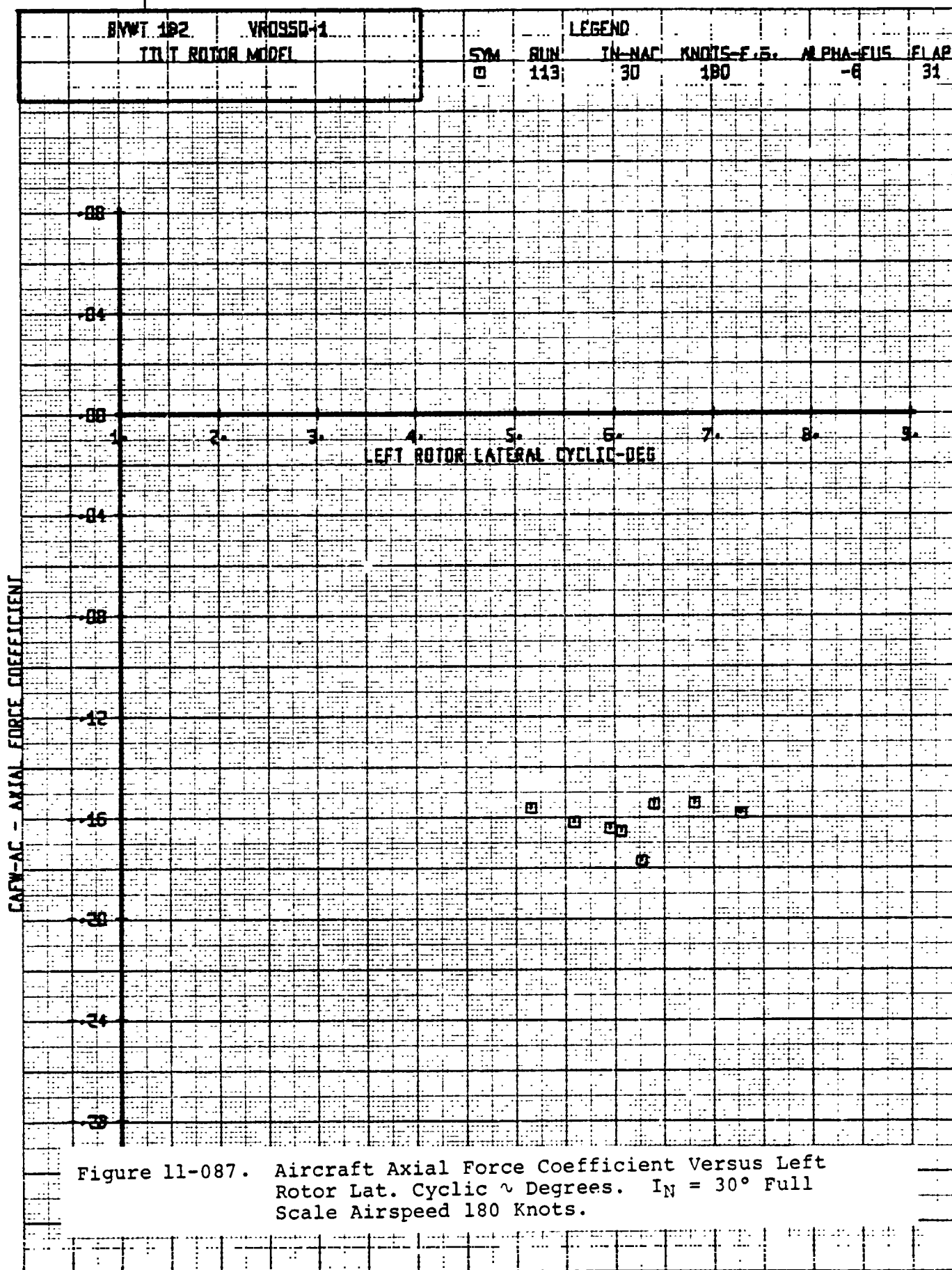
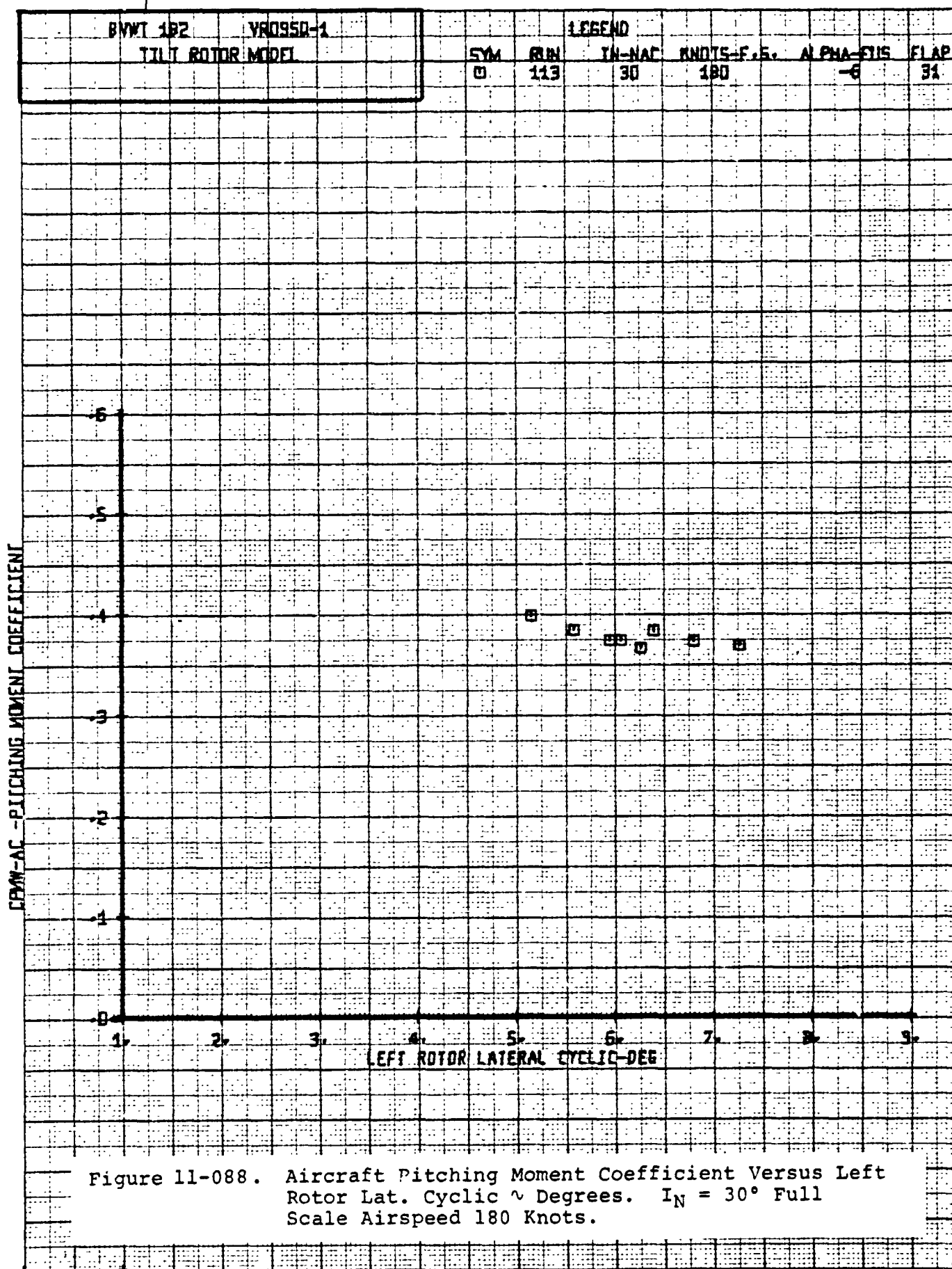
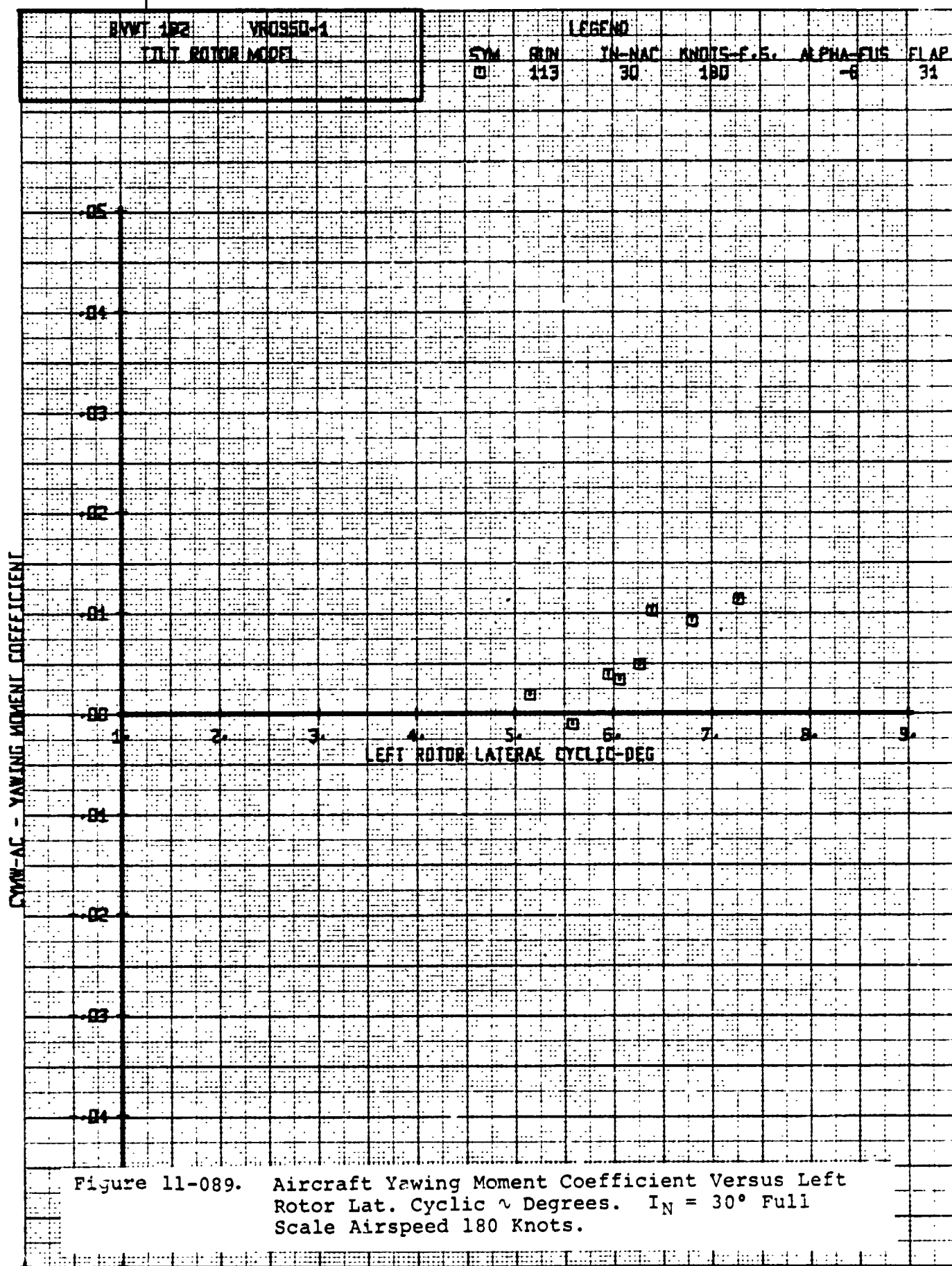
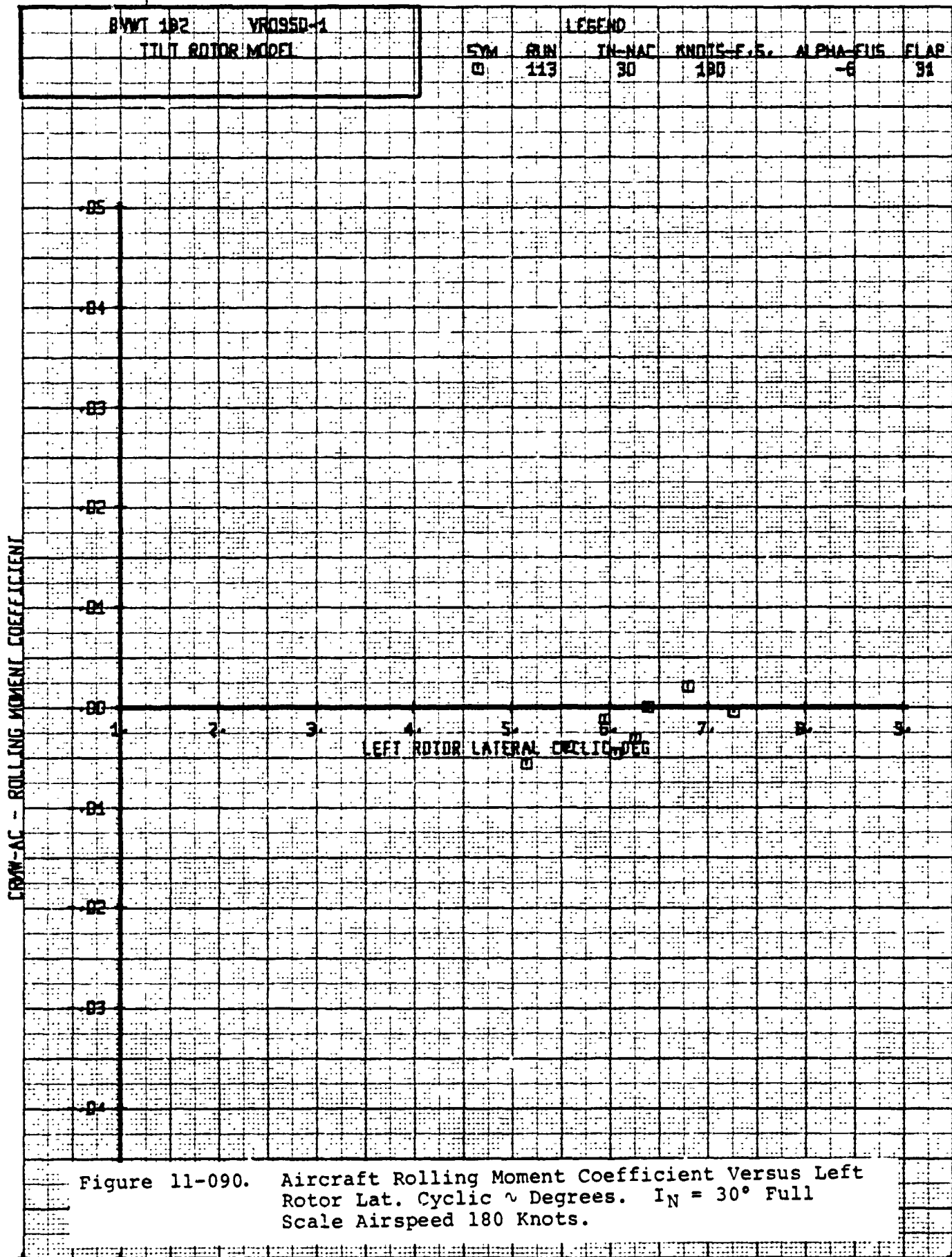


Figure 11-087. Aircraft Axial Force Coefficient Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.







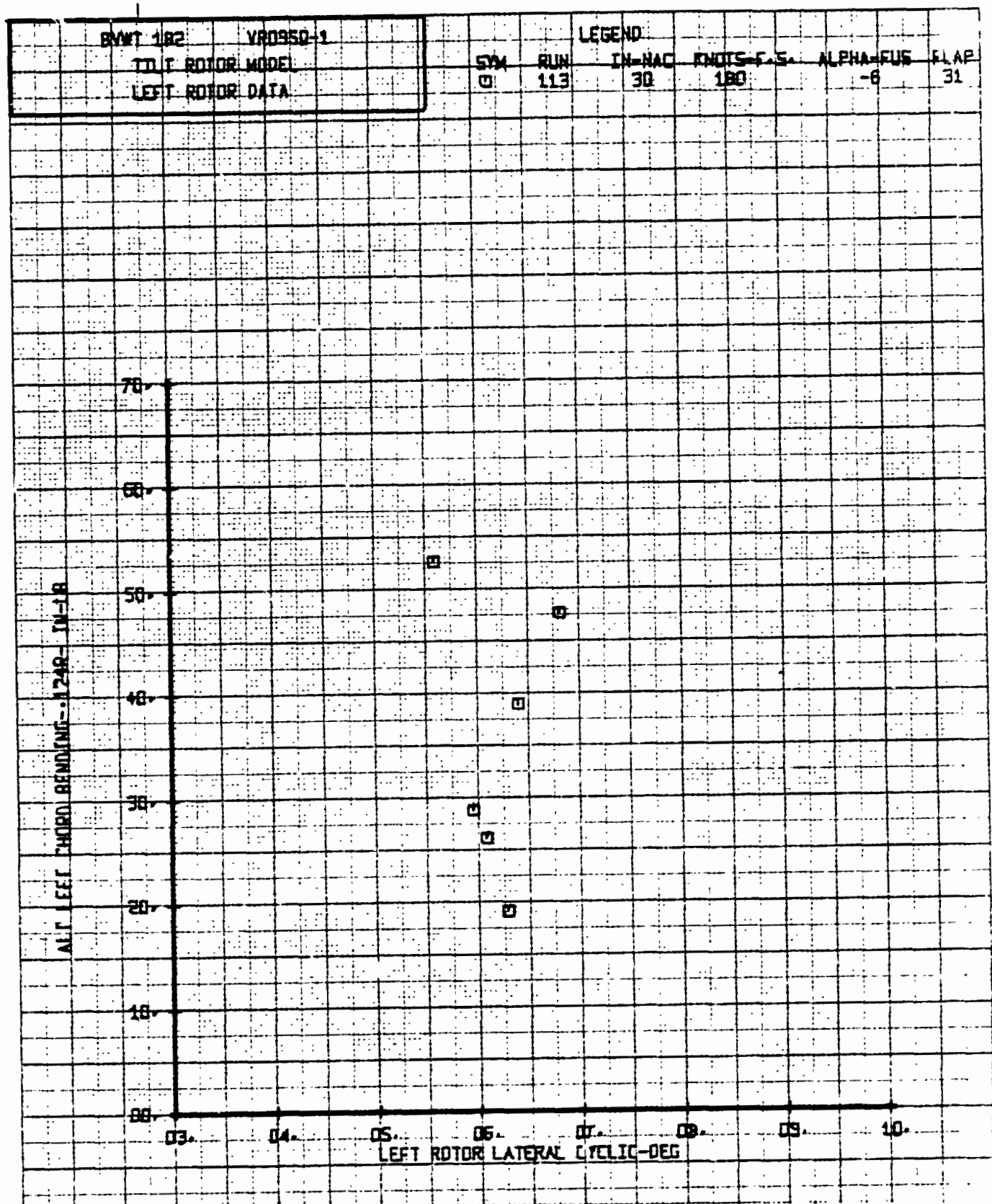
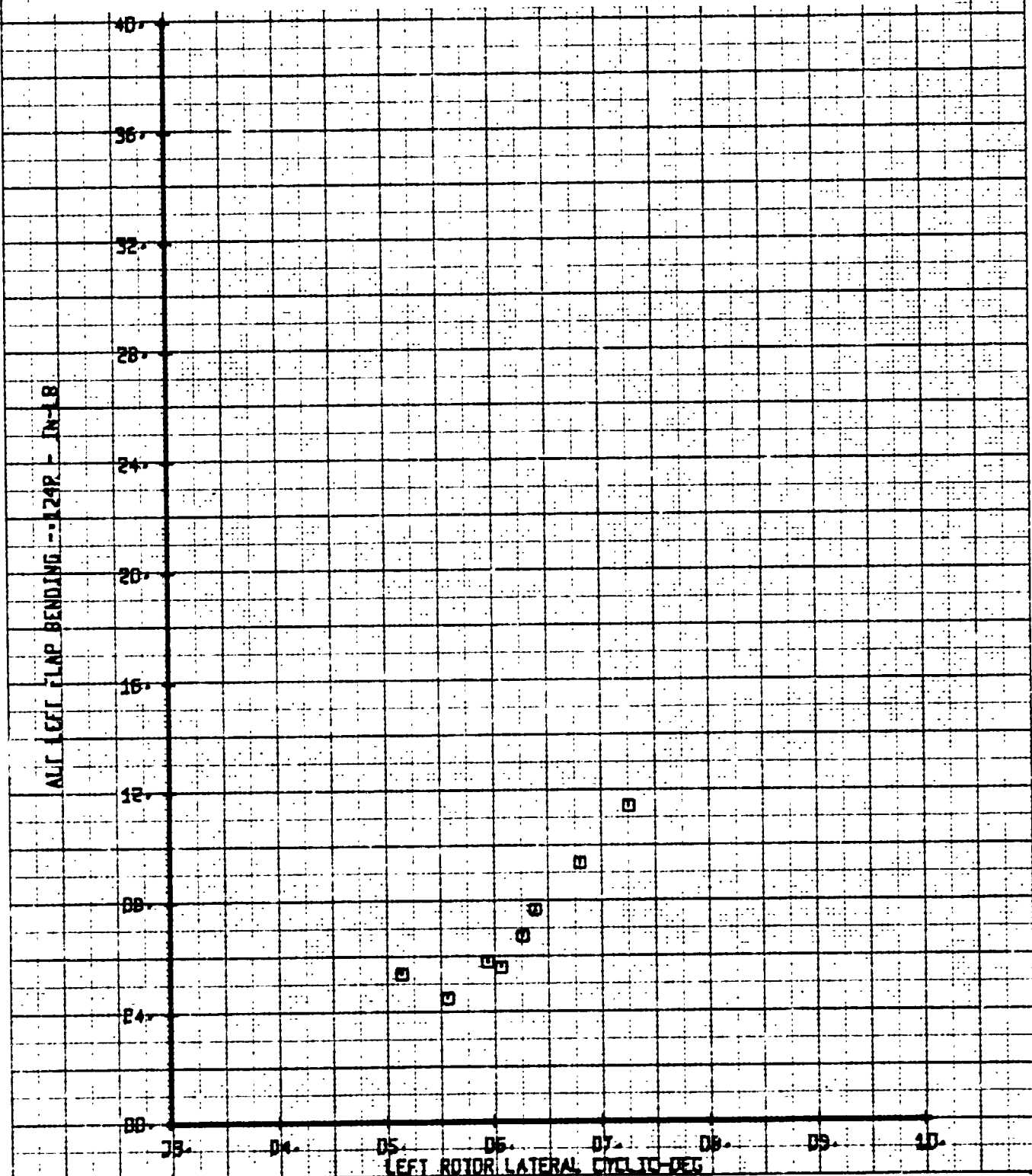


Figure 11-091. Alt. Left Chord Bending Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

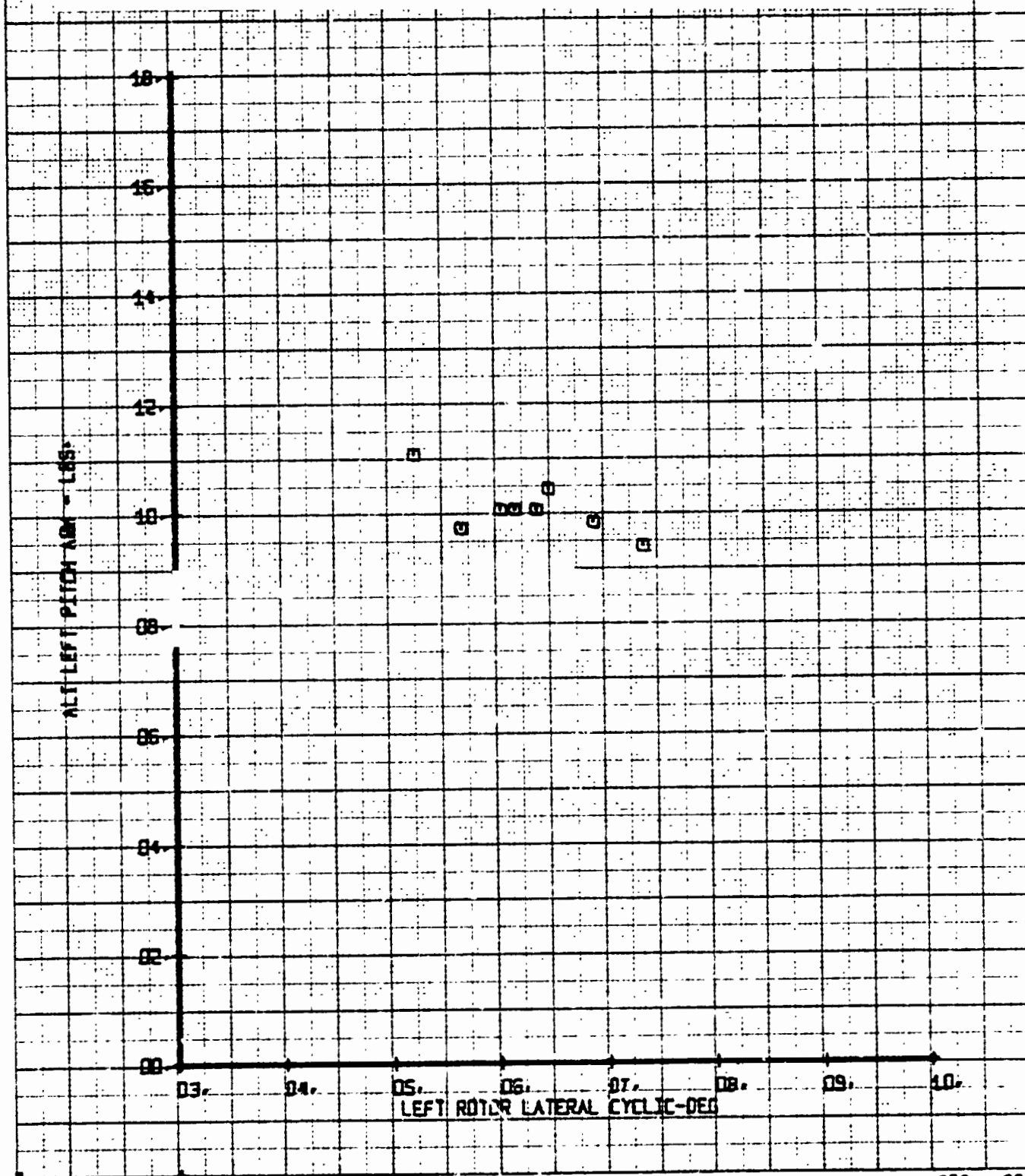
BVWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN. MAC	KNOTS-F.S.	ALPHA-DEG
LEFT ROTOR DATA		□	113	30	180	-8
						FLAP 31

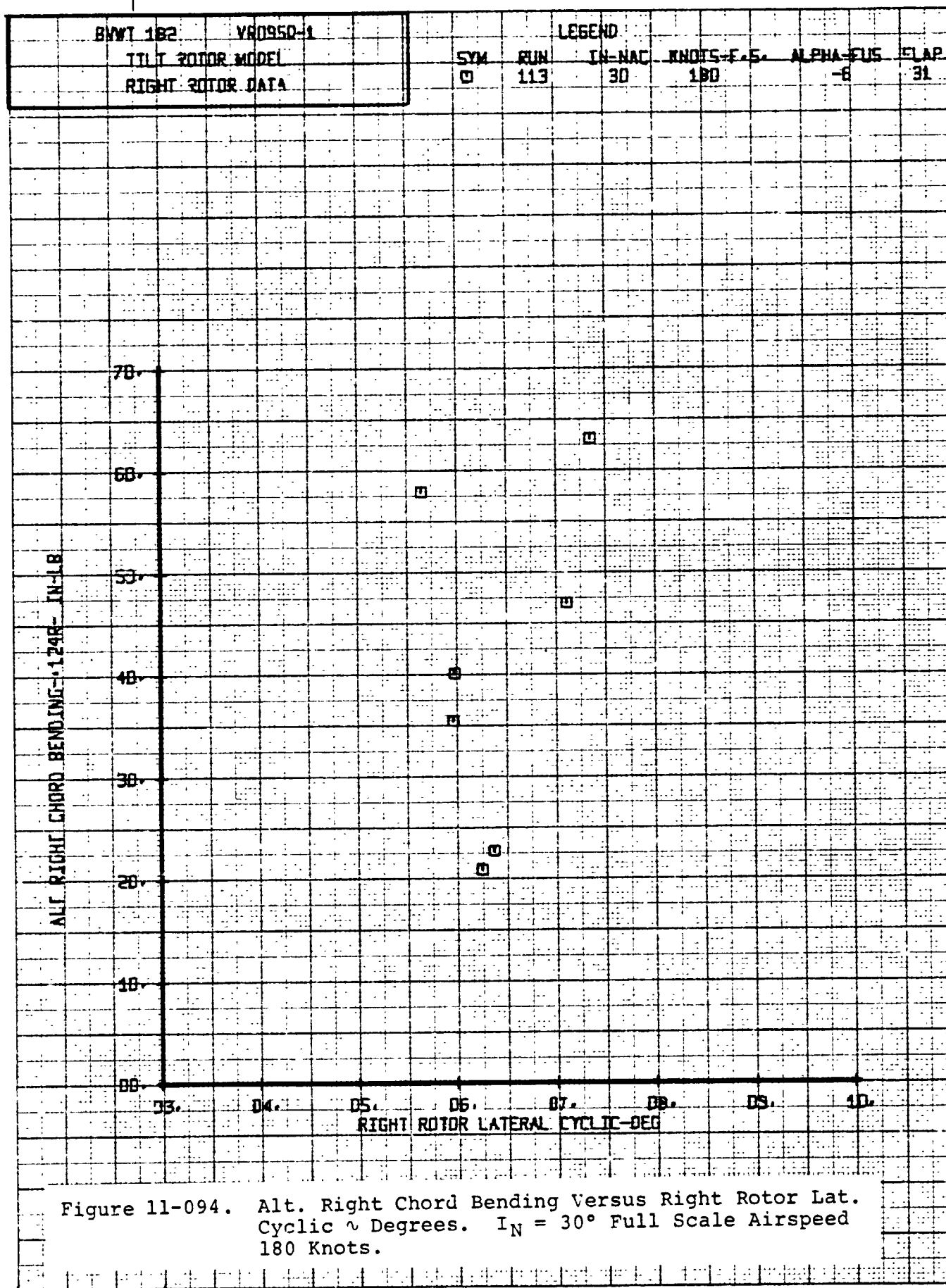
Figure 11-092. Alt. Left Flap Bending Versus Left Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BYWT 182	YR0950-1	LEGEND				
TIT Rotor Model		SYM	RIN	IN-NA	KNITS-F-S	ALPHA-FUS
LEFT ROTOR DATA		0	118	30	180	-6
						FLAP 31

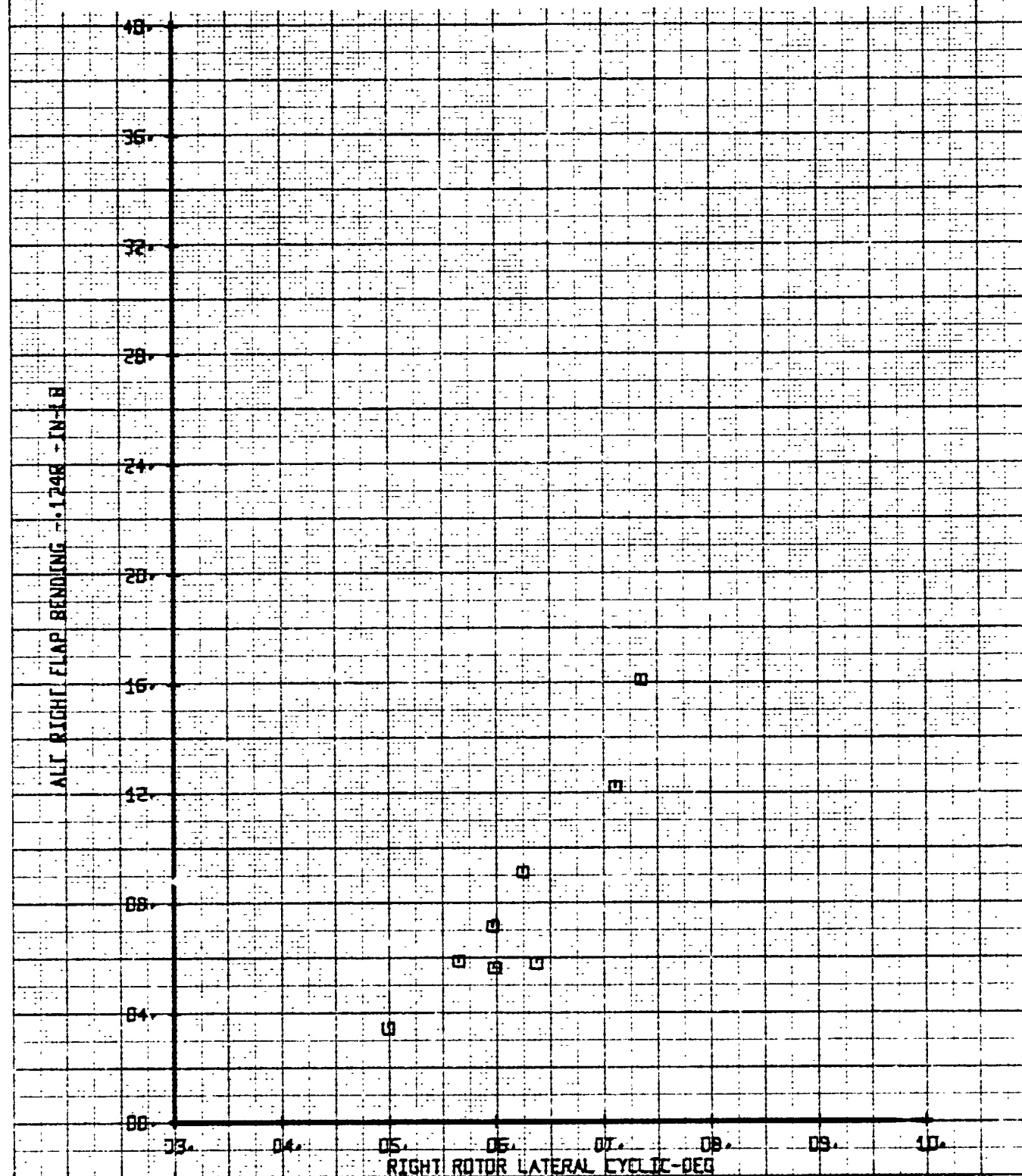
Figure 11-093. Alt. Left Pitch Link Load Versus Left Rotor Lat. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.





BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	113	30	180	-6
						31

Figure 11-095. Alt. Right Flap Bending Versus Right Rotor Lat. Cyclic ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182 YR0950-1

TILT ROTOR MODEL

RIGHT ROTOR DATA

SYM

RUN

FGENO

IN-NAC

KNOTS-F.S.

ALPHA-FUS

FLAP

0

113

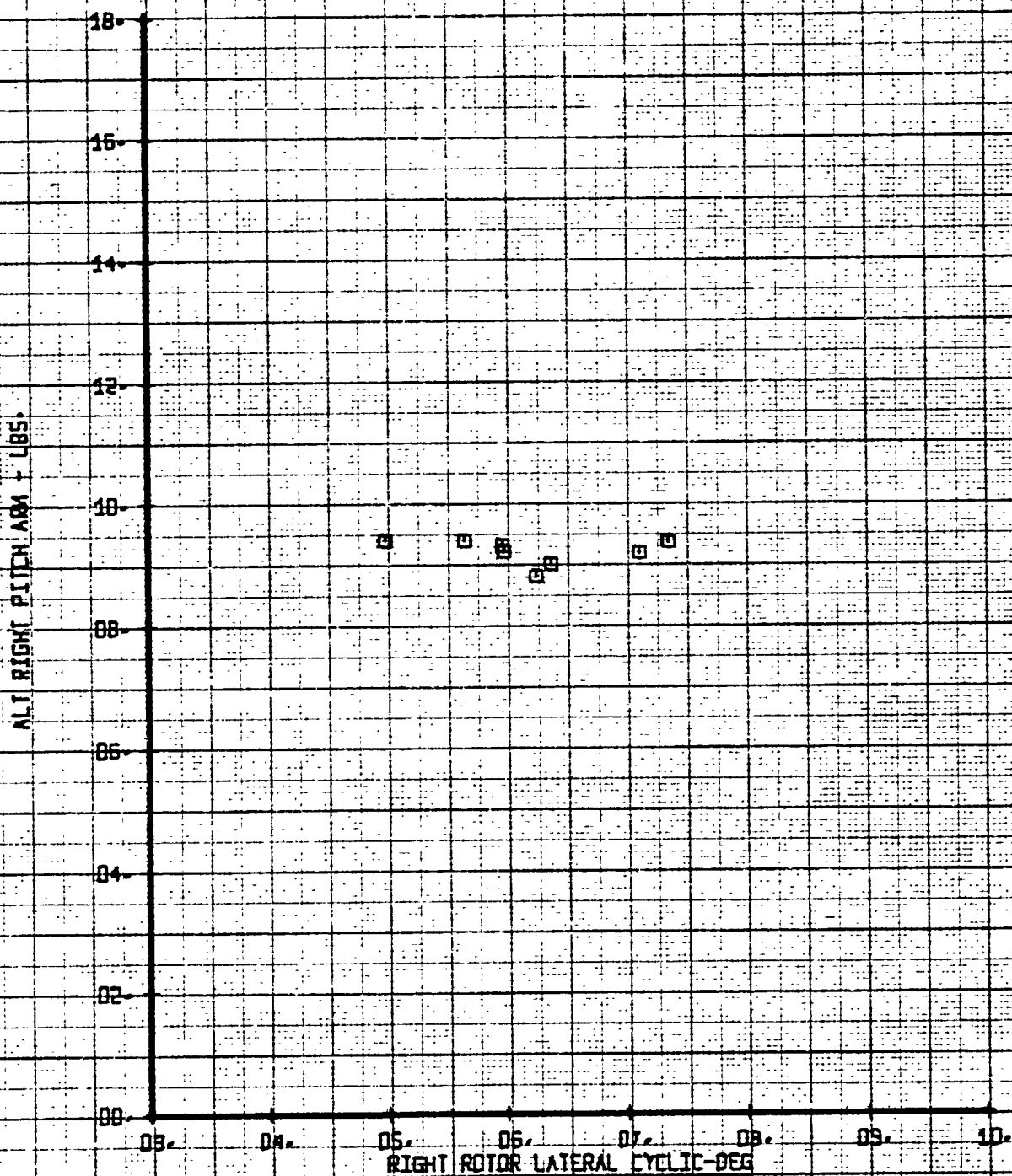
30

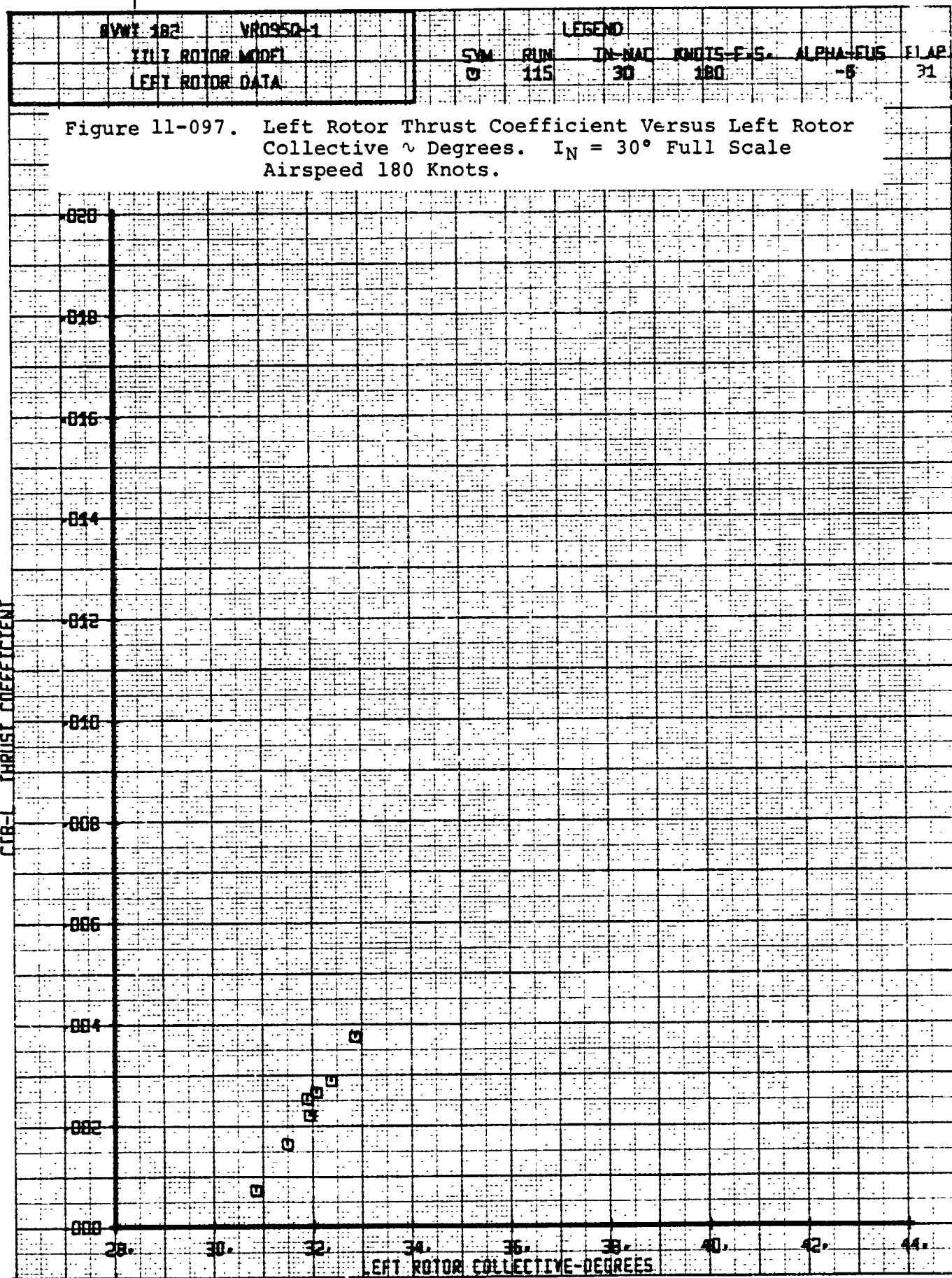
180

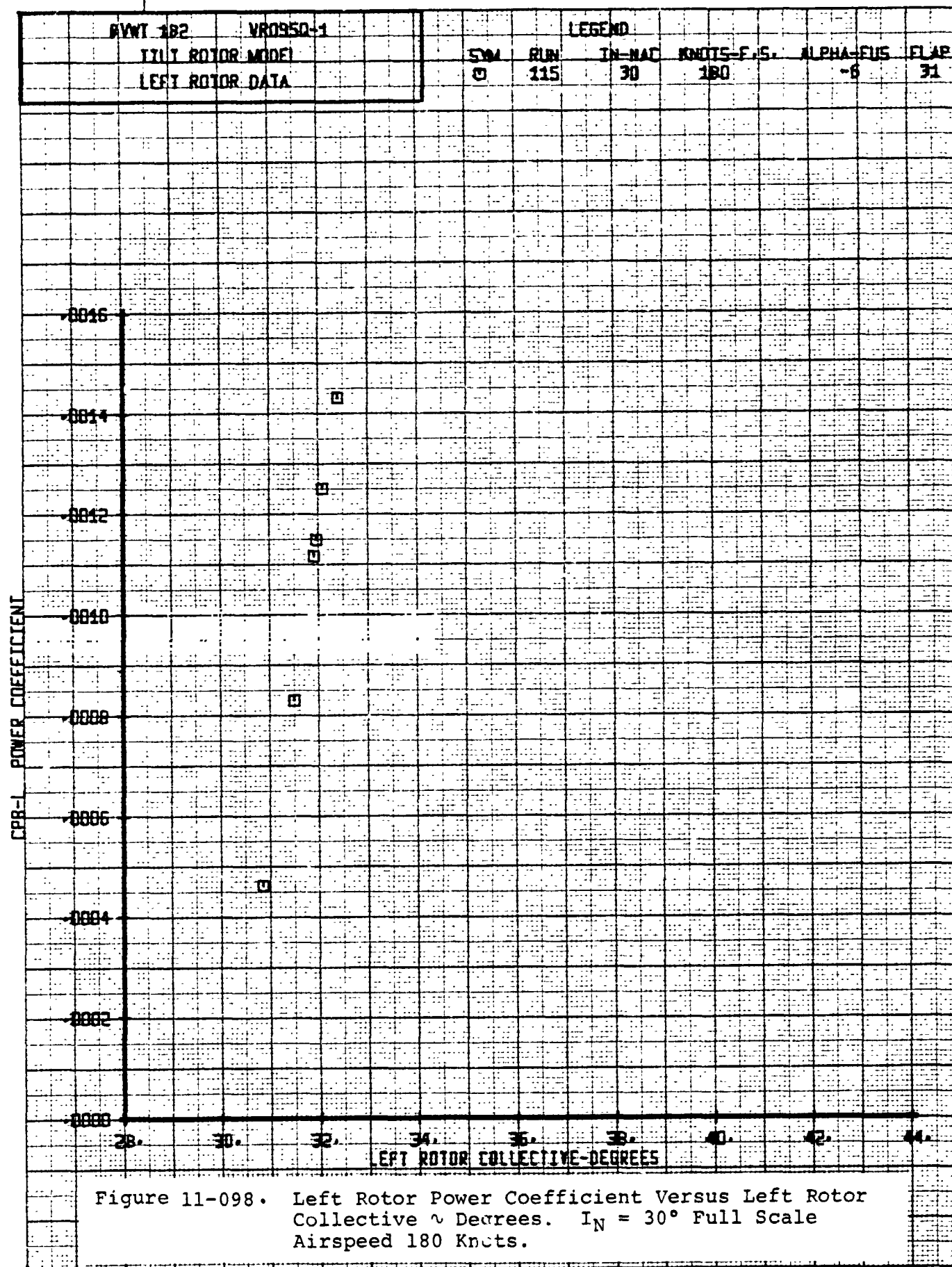
-6

31

Figure 11-096. Alt. Right Pitch Link Load Versus Right Rotor
Lat. Cyclic α Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.







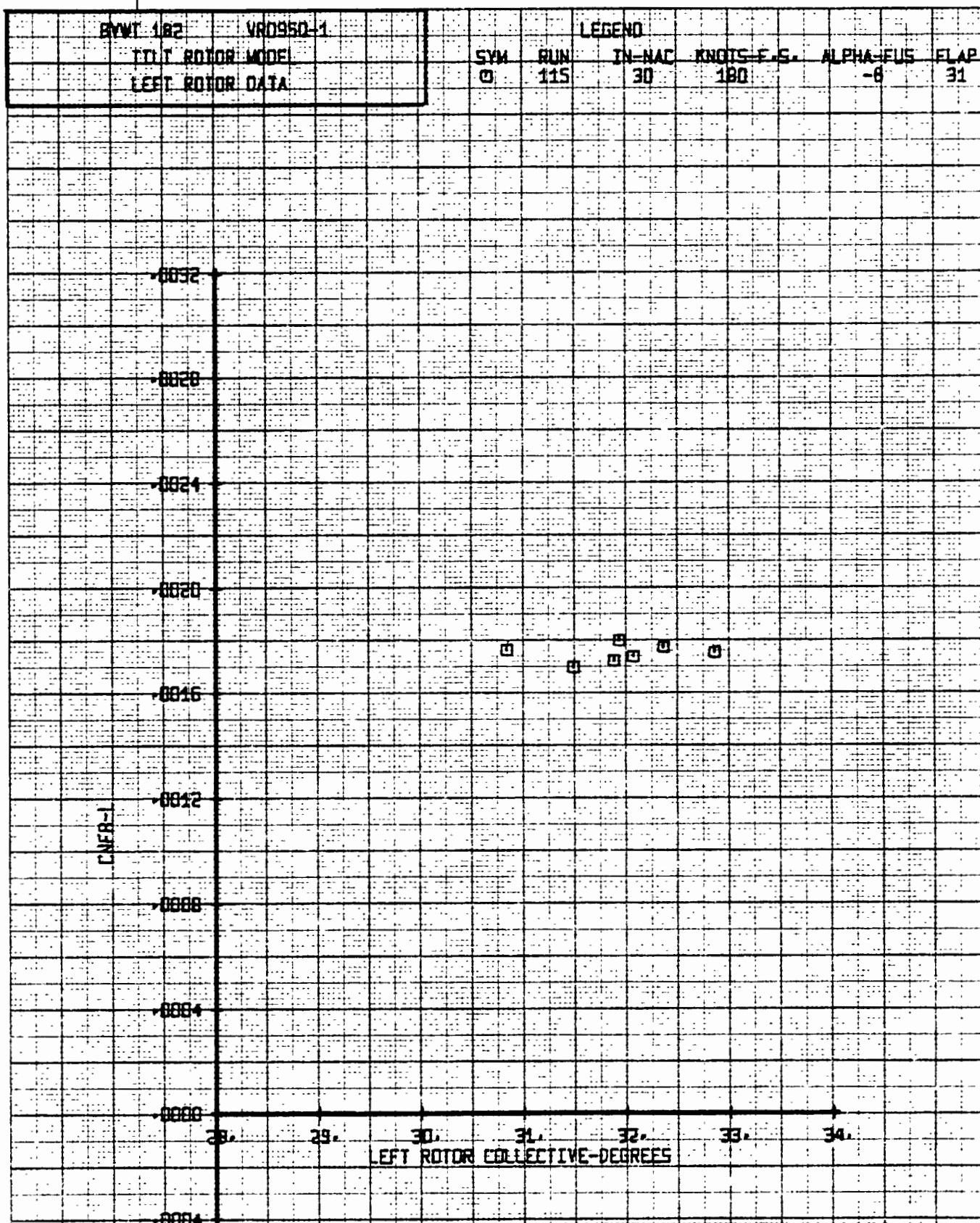
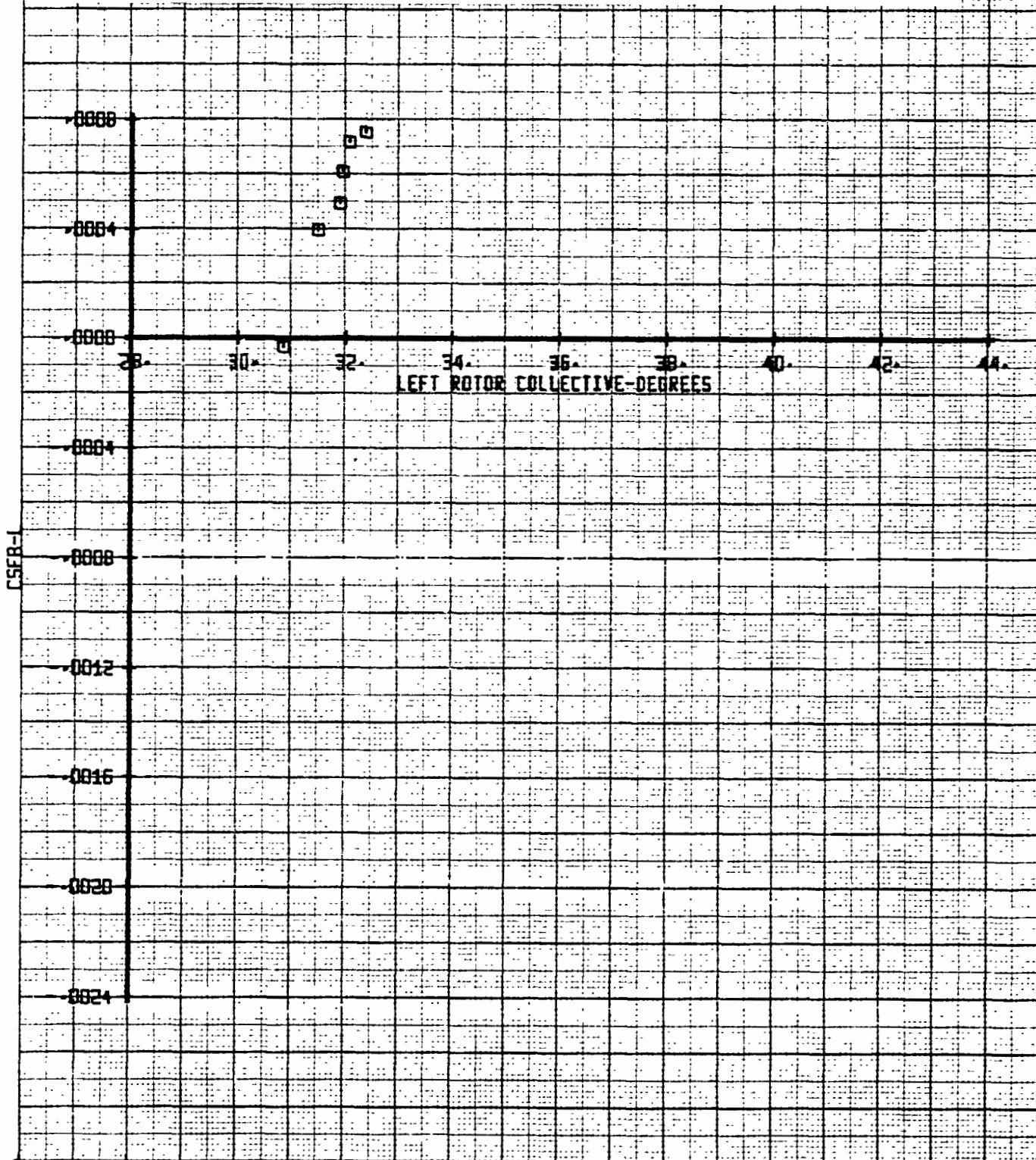
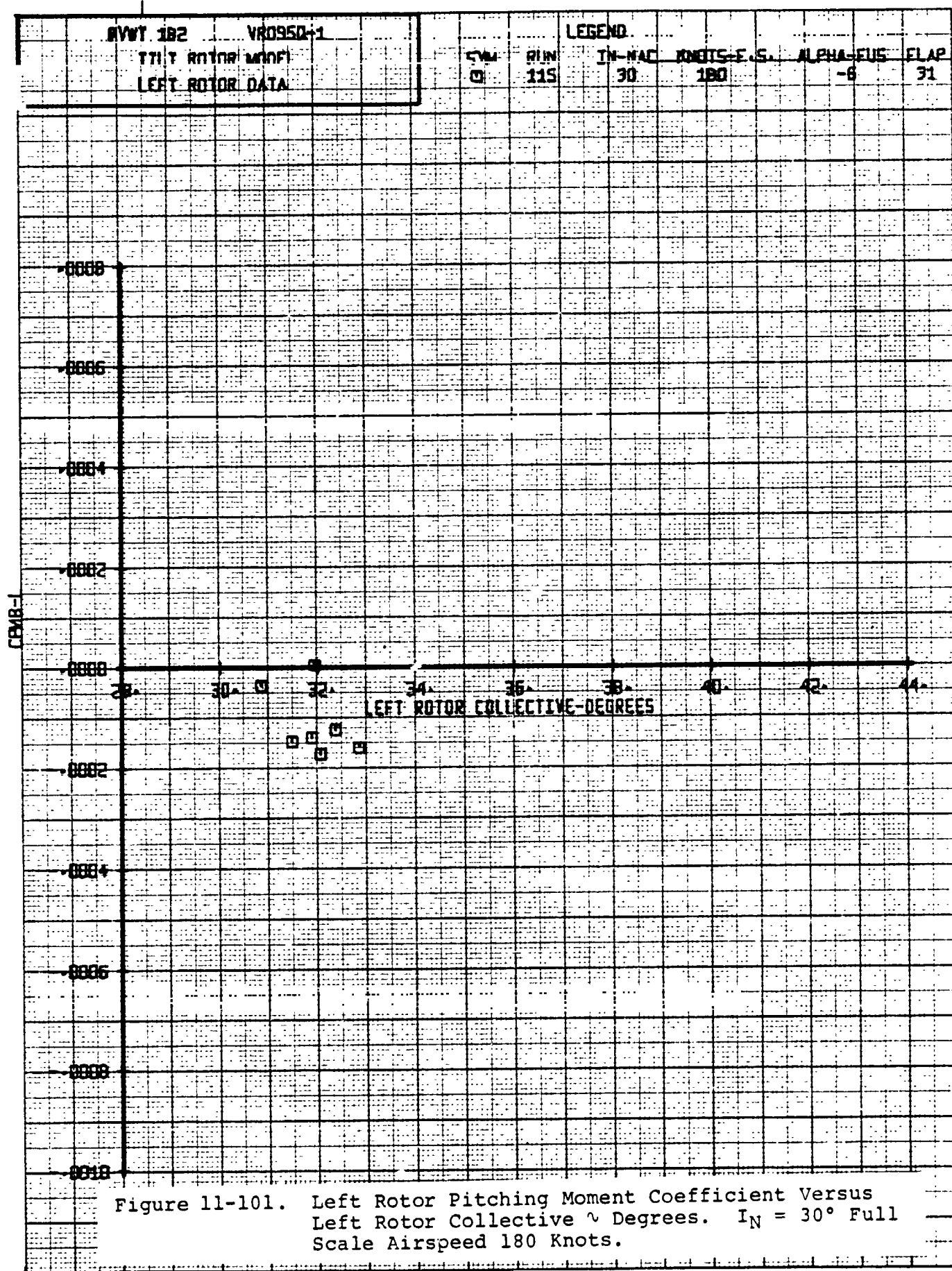


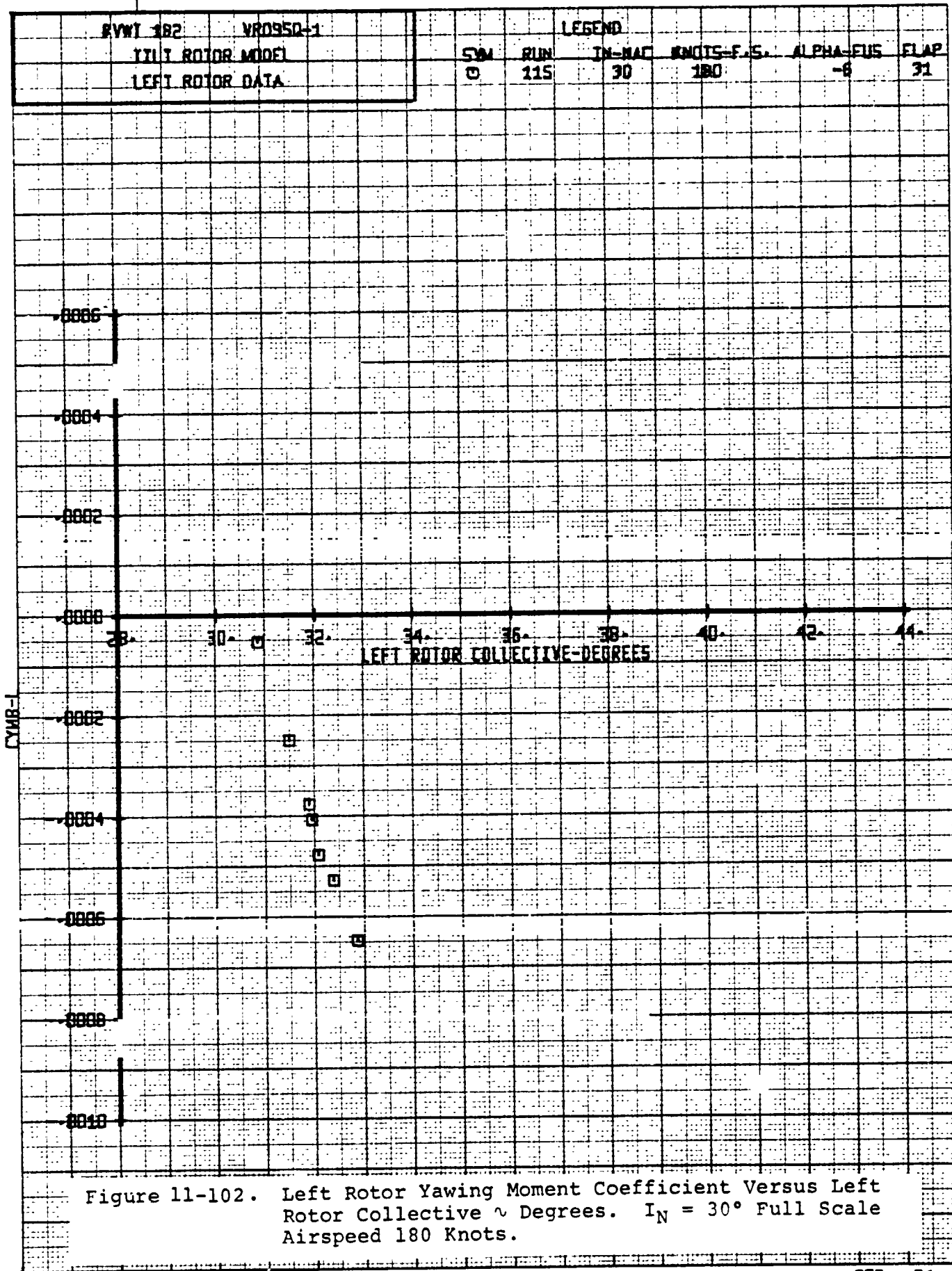
Figure 11-099. Left Rotor Normal Force Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

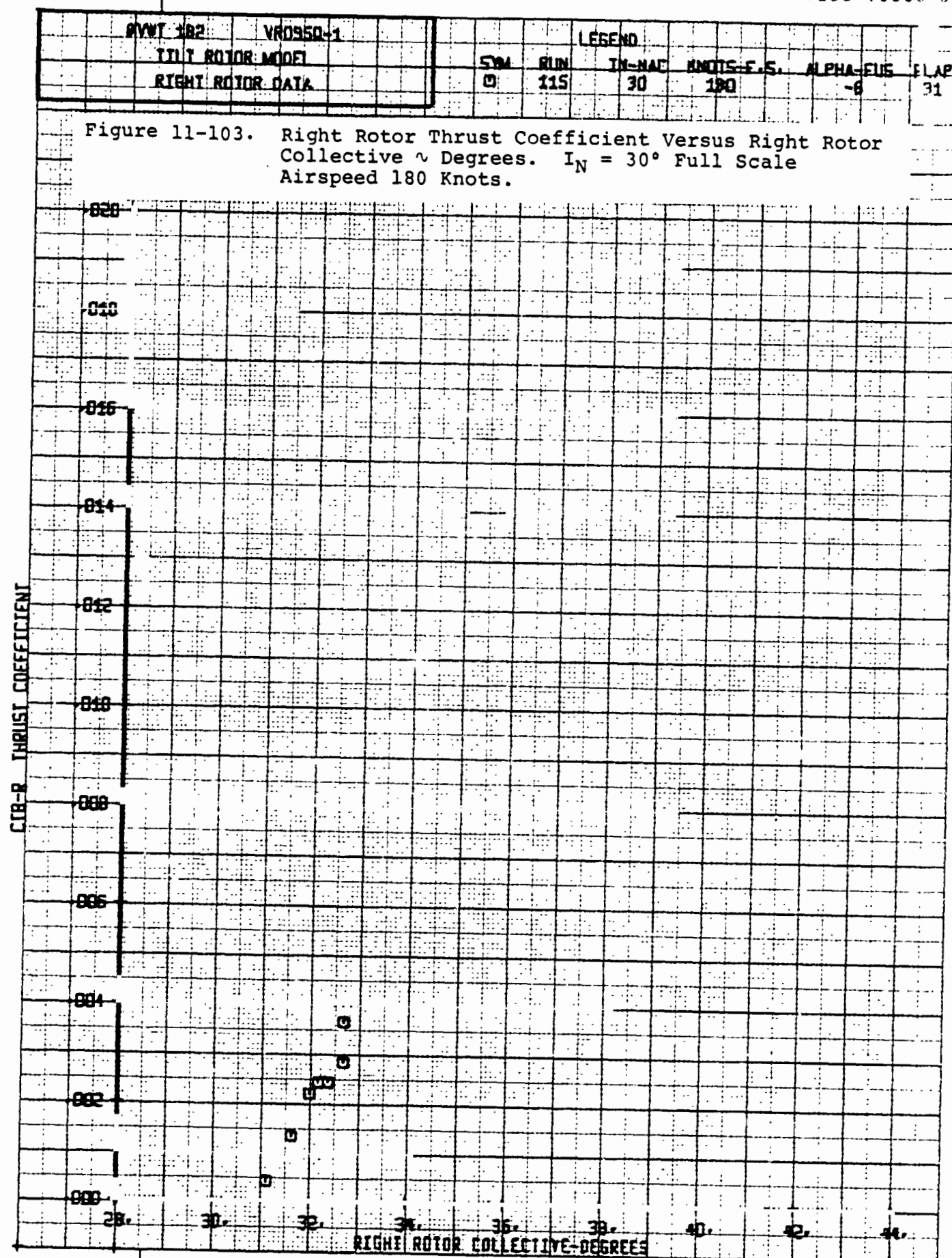
BVWT 182		VR0950-1		LEGEND					
LEFT ROTOR DATA		LEFT ROTOR MODEL		SM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP
				0	115	30	180	-6	31

Figure 11-100. Left Rotor Side Force Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.









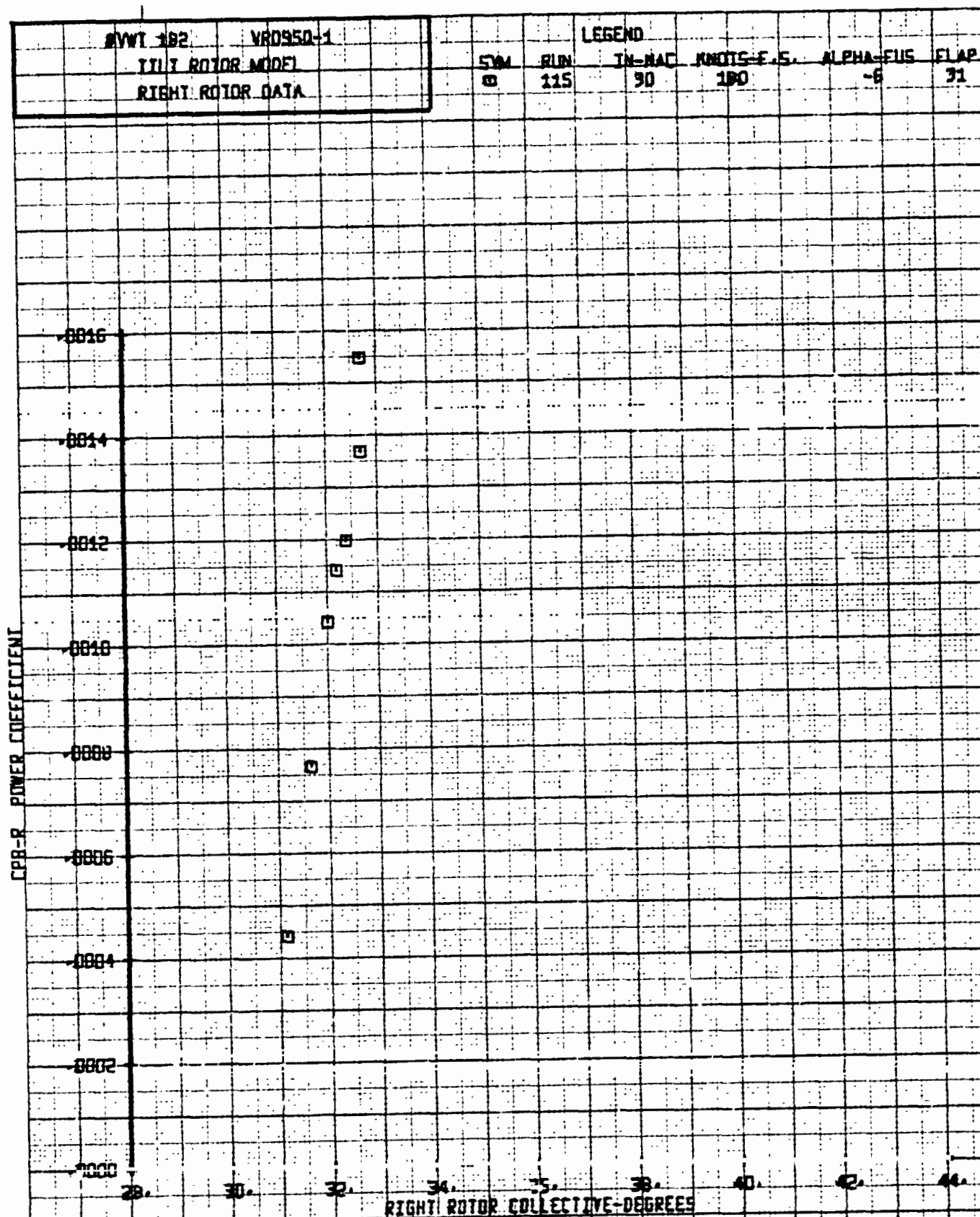
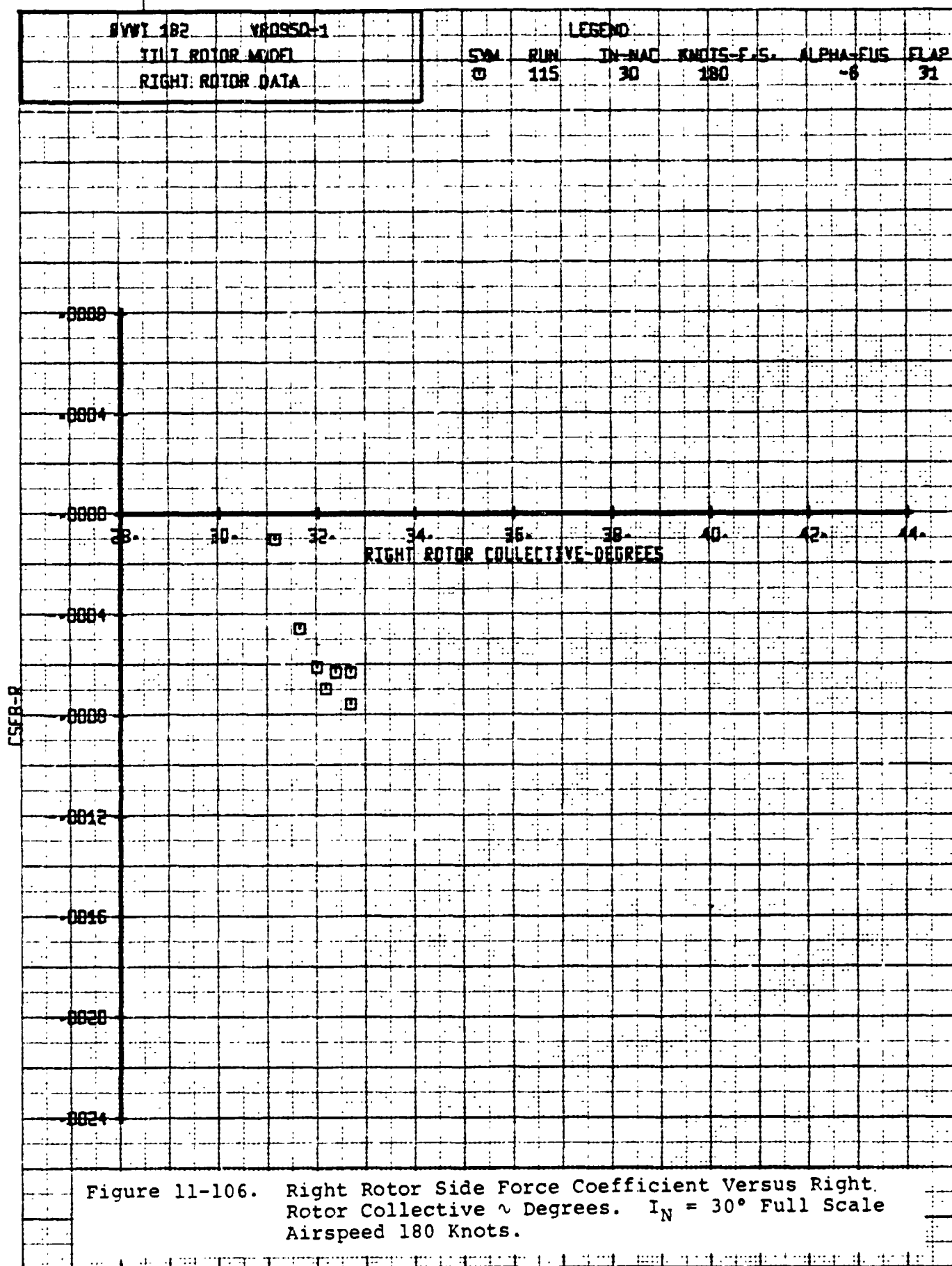
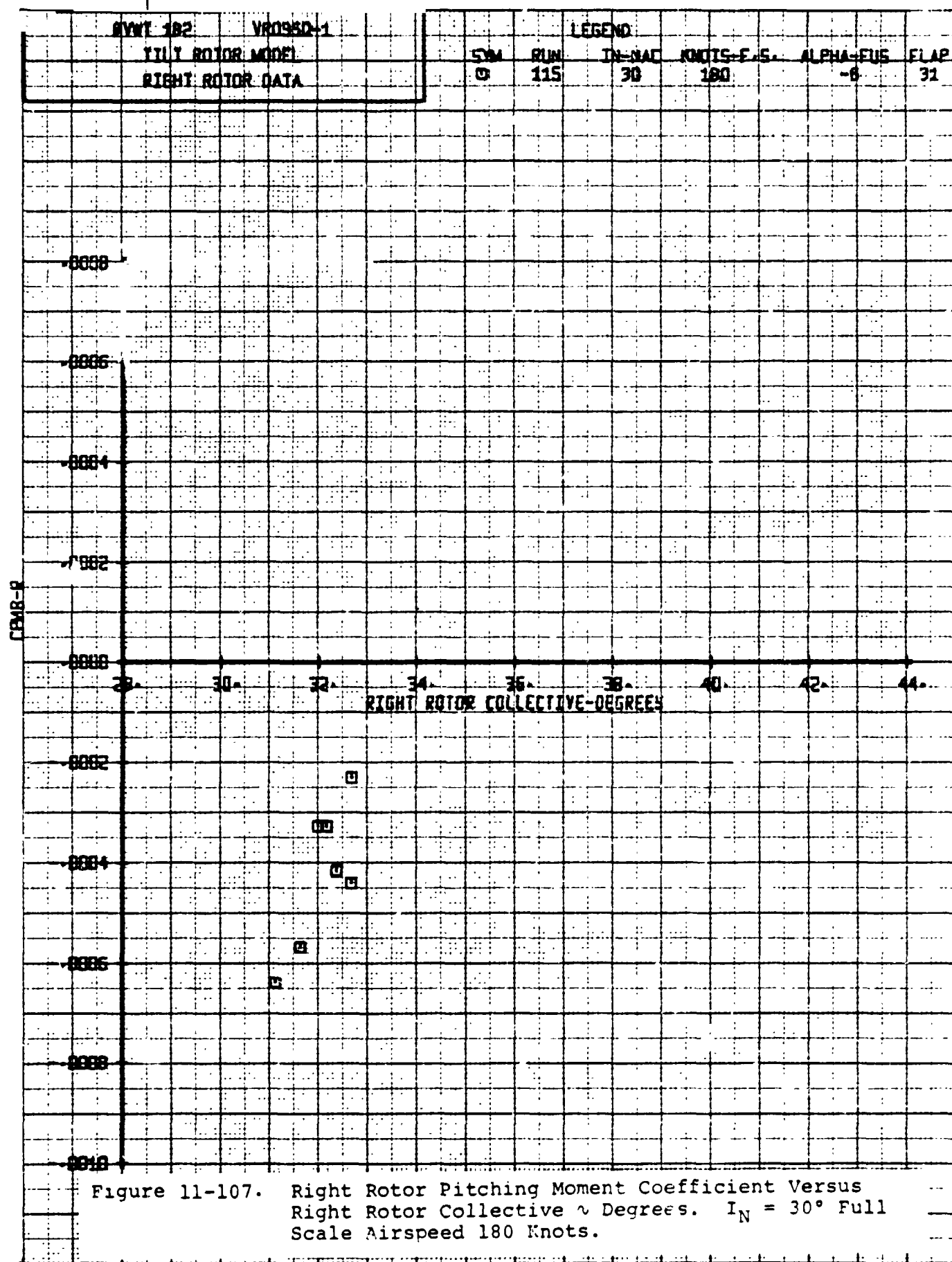
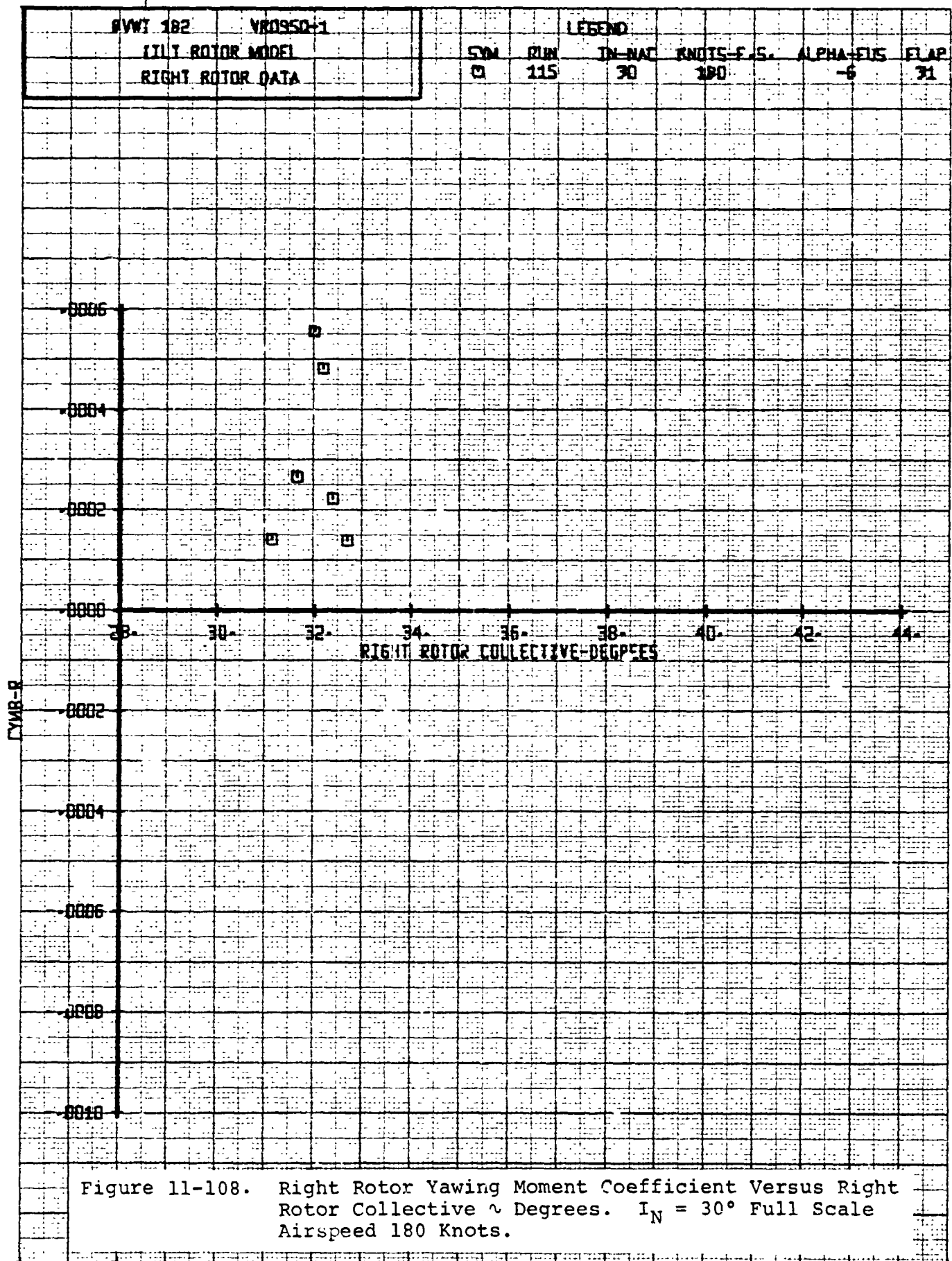


Figure 11-104. Right Rotor Power Coefficient Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

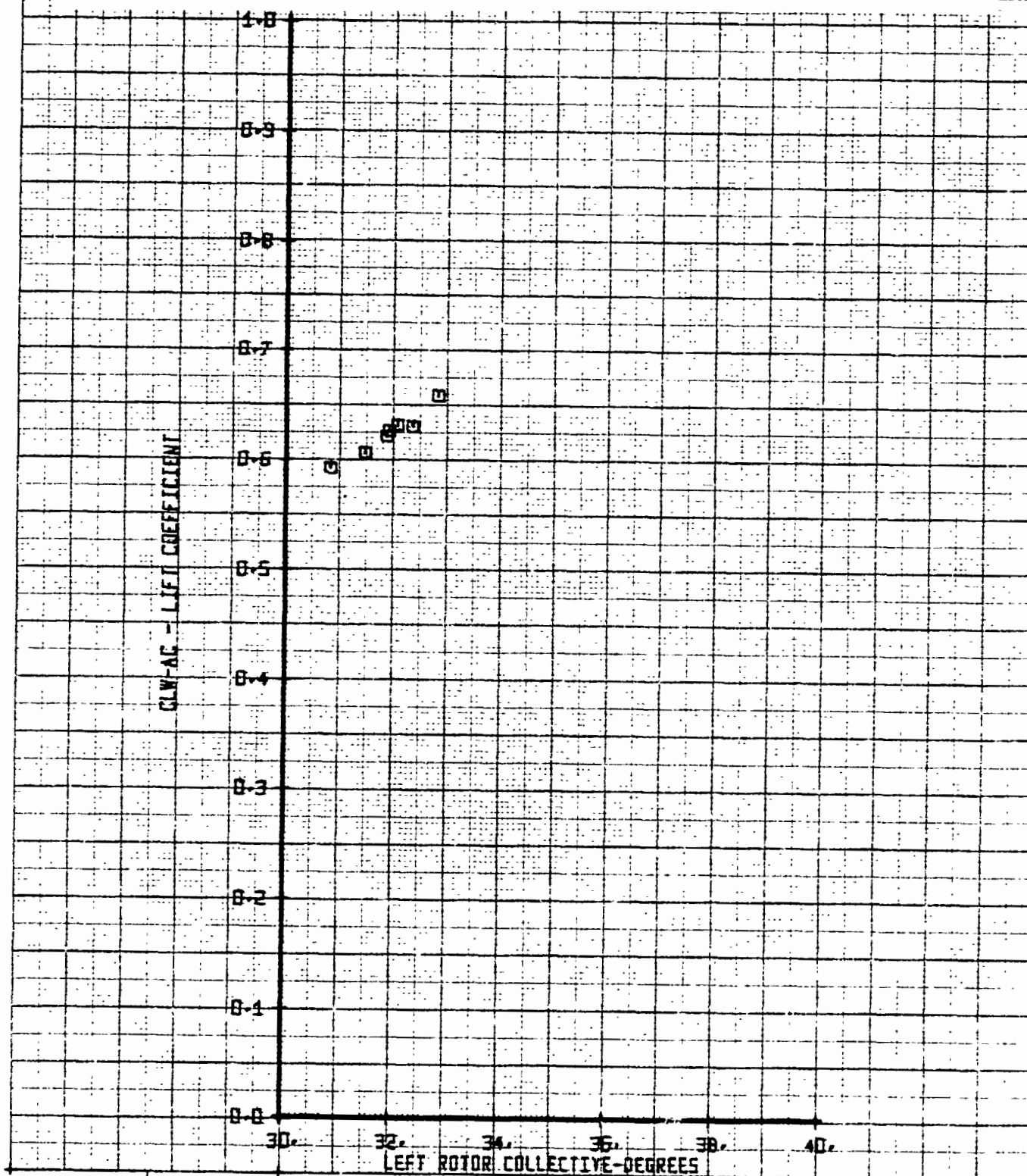


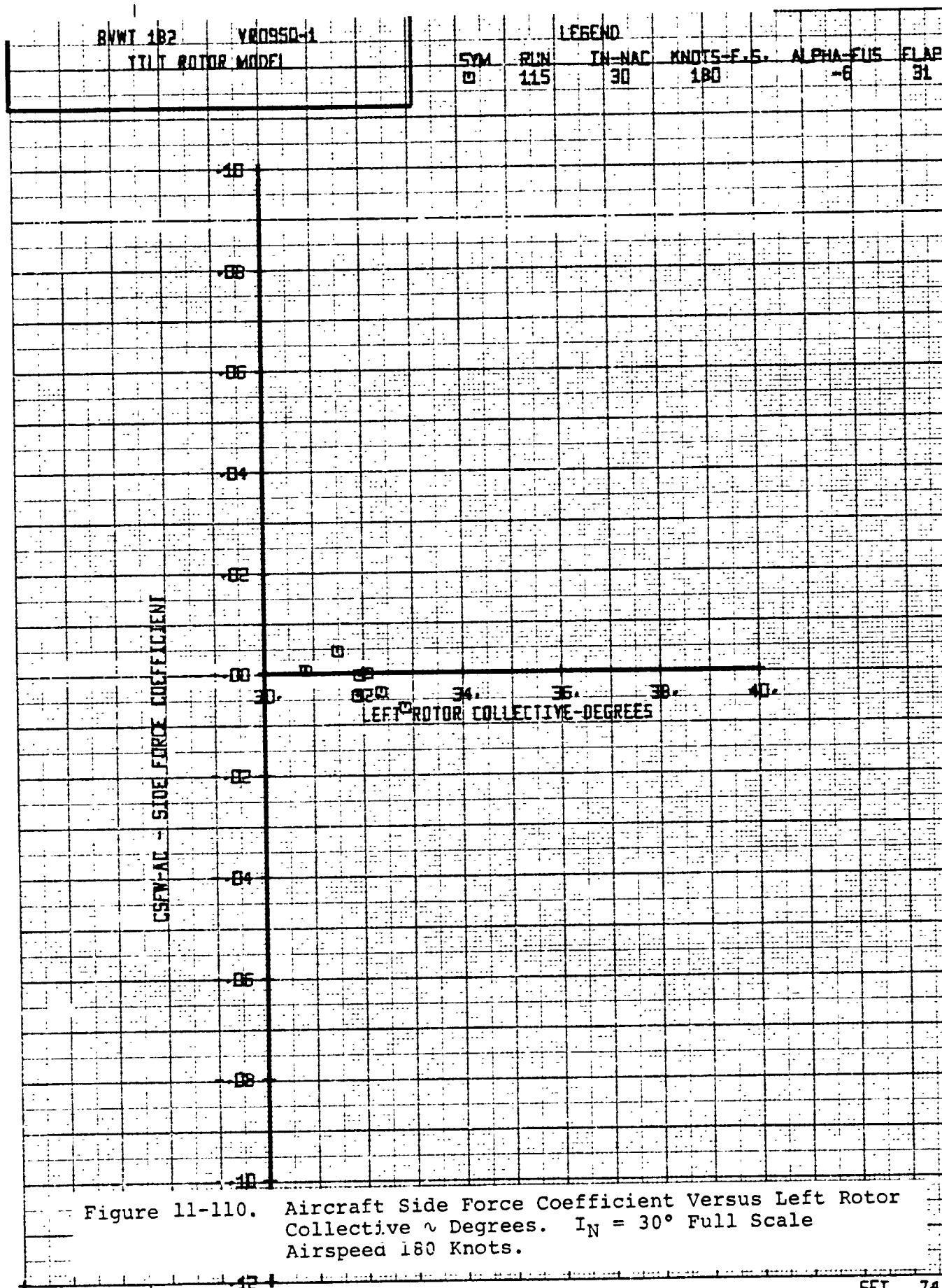




BYWT 182	Y80950-1	LEGEND				
TILT ROTOR MODEL		SYM	MIN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
		□	115	30	180	-8
						FLAP 31

Figure 11-109. Aircraft Lift Coefficient Versus Left Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.





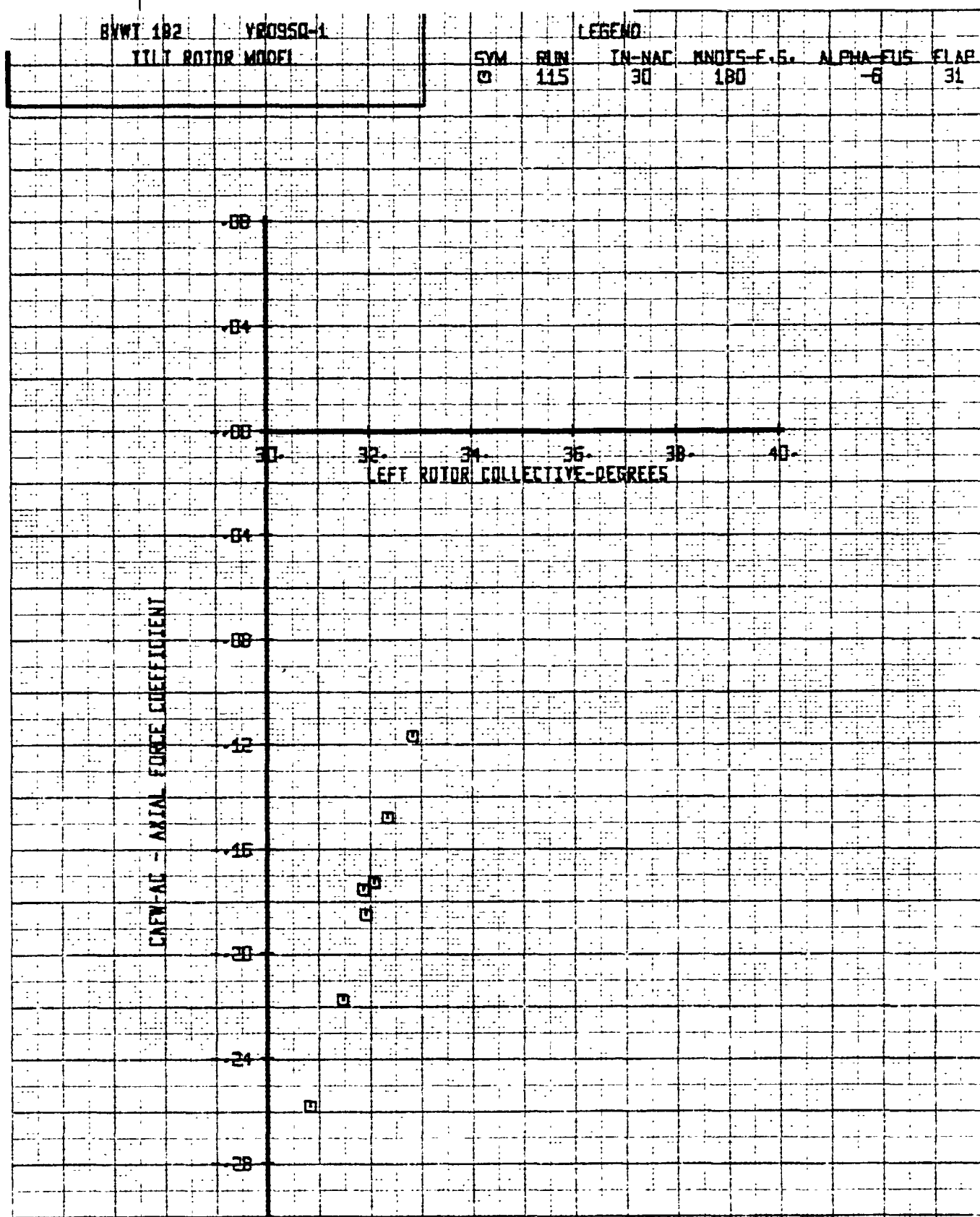


Figure 11-111. Aircraft Axial Force Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

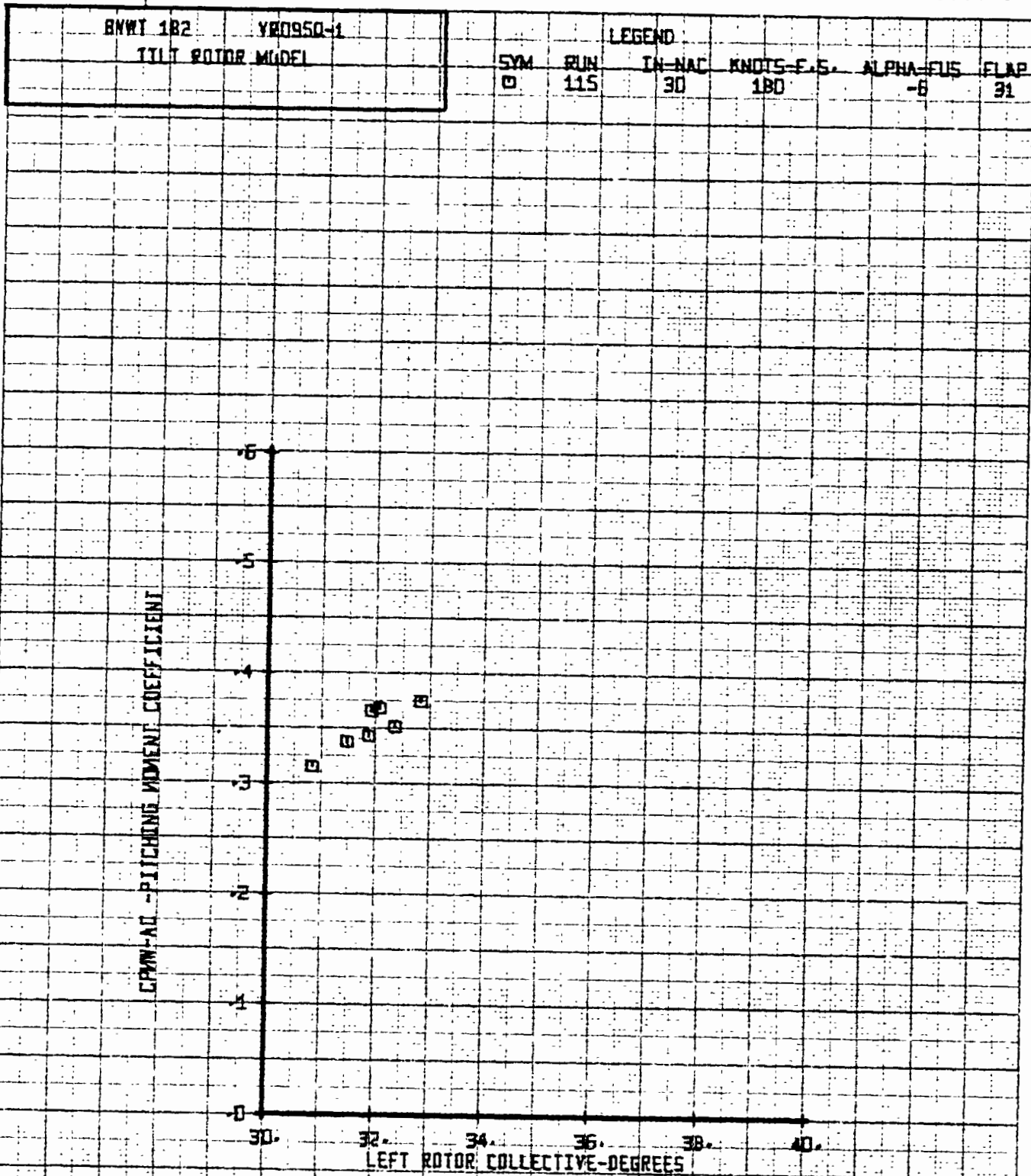


Figure 11-112. Aircraft Pitching Moment Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

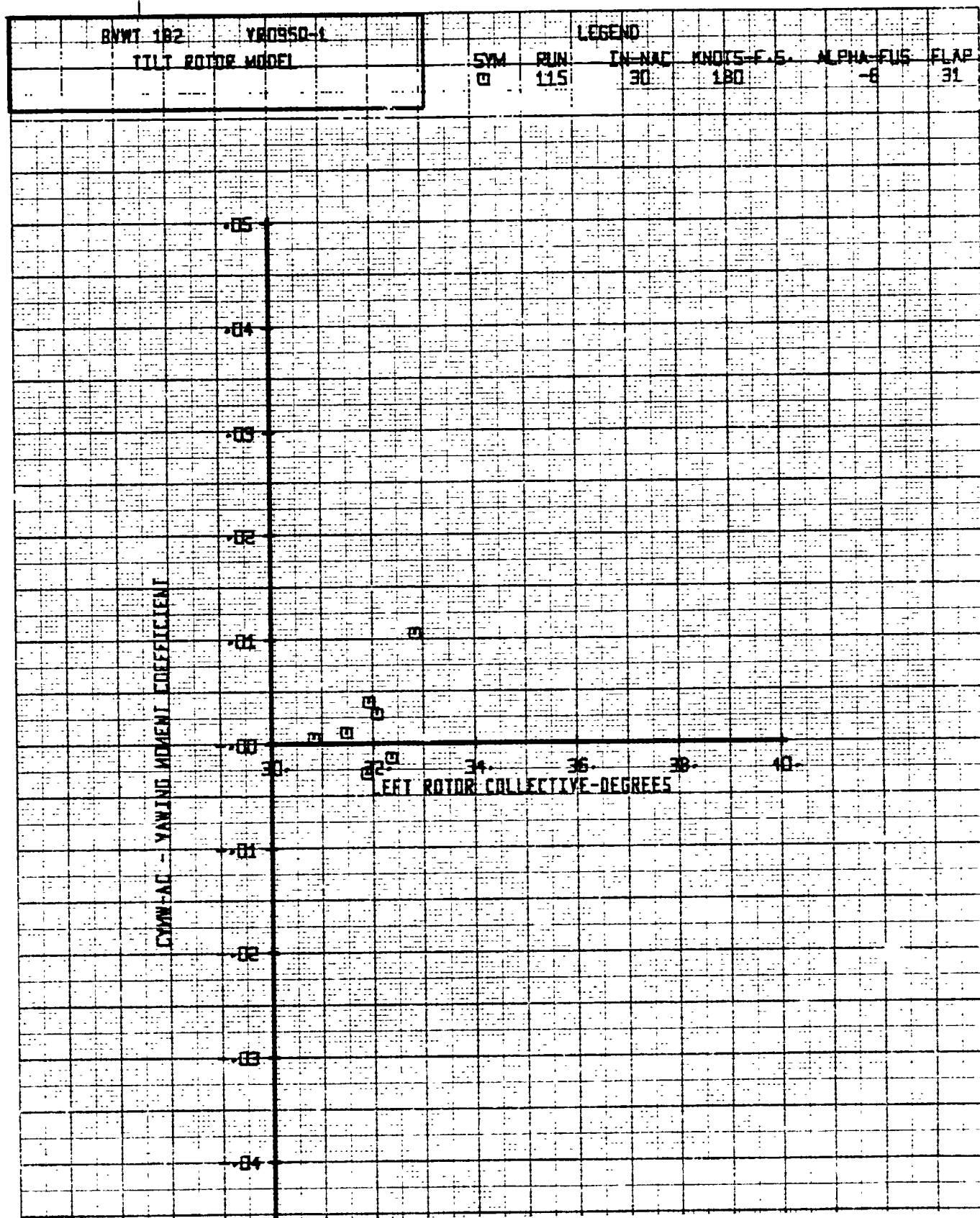
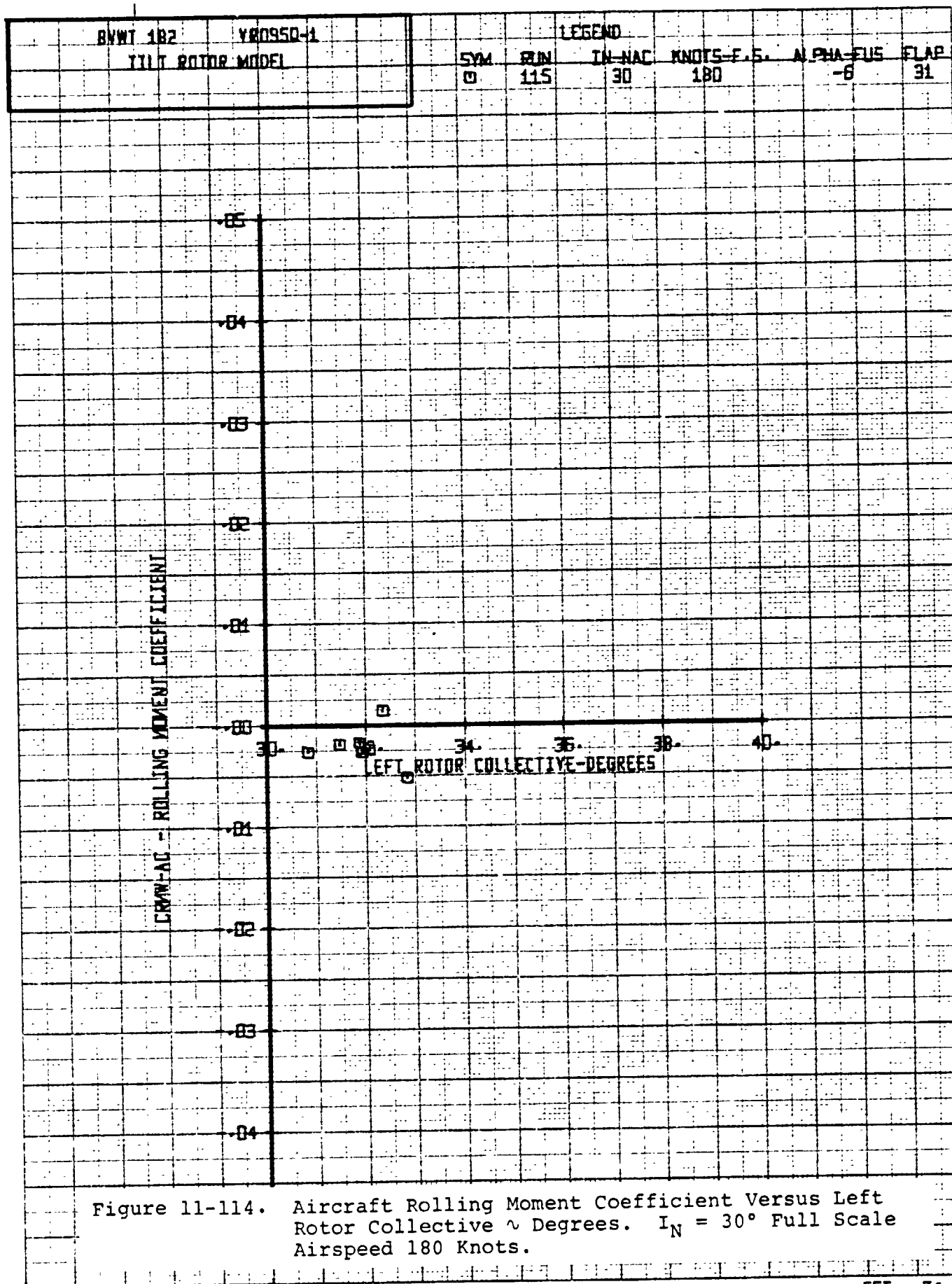
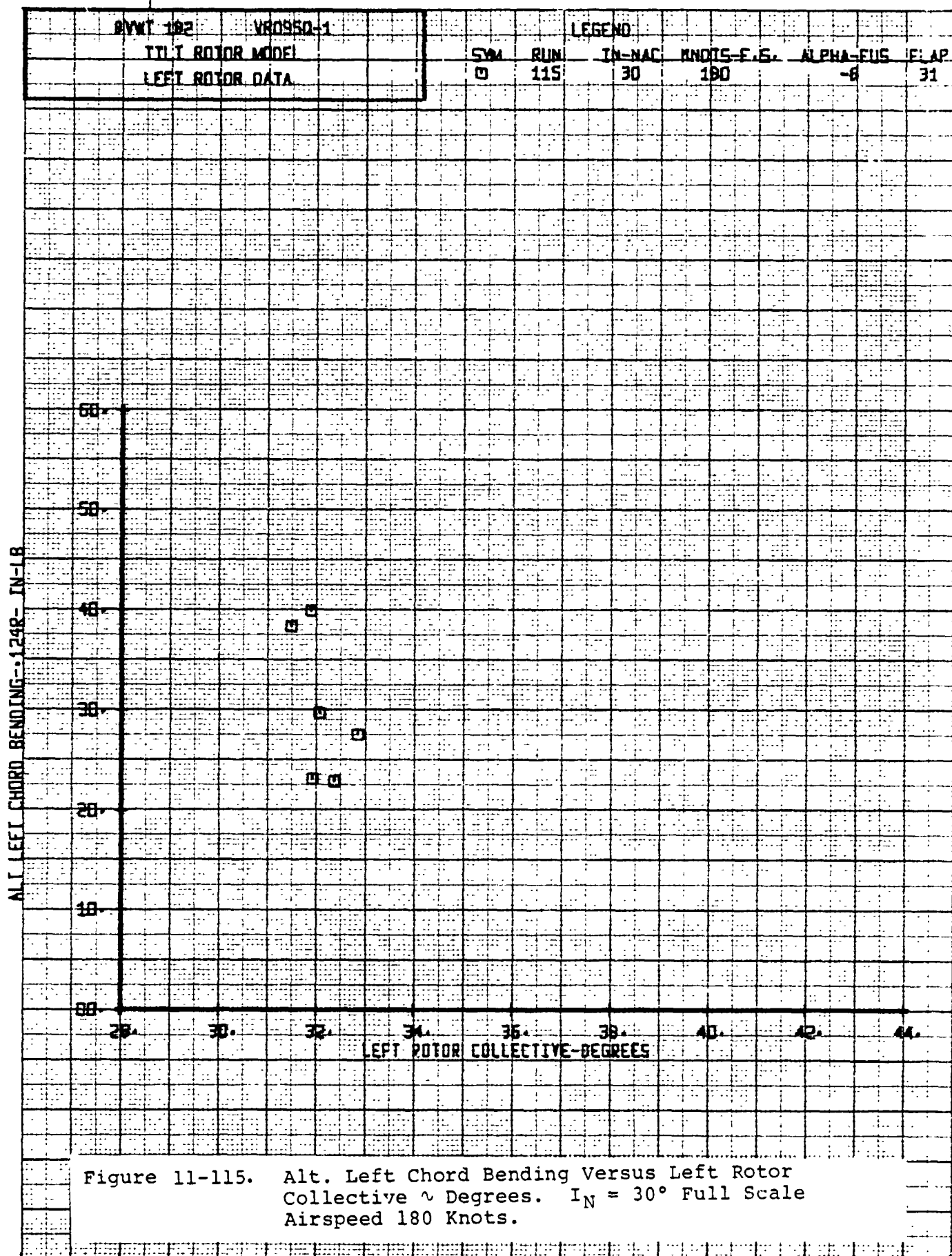
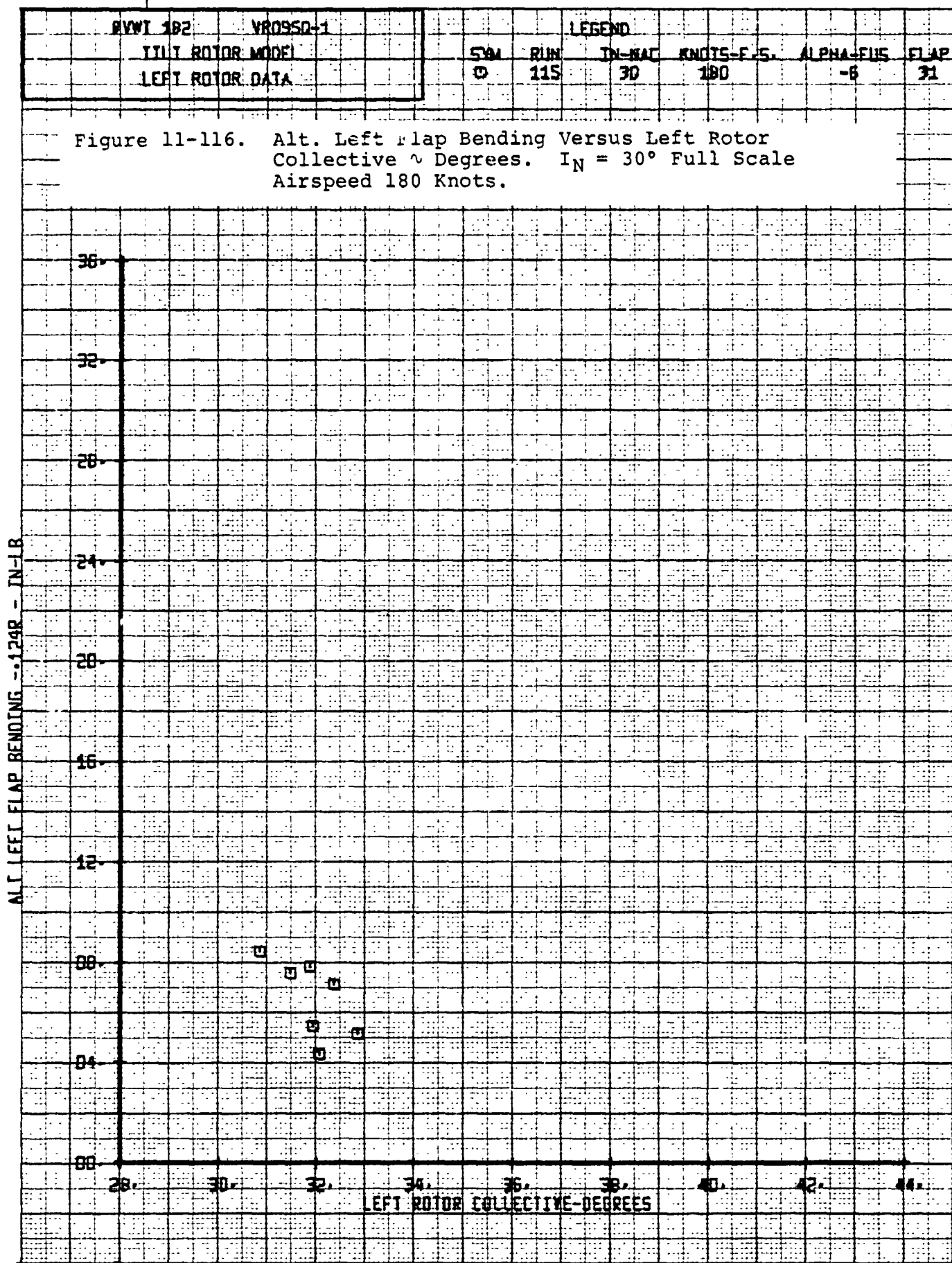


Figure 11-113. Aircraft Yawing Moment Coefficient Versus Left Rotor Collective α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

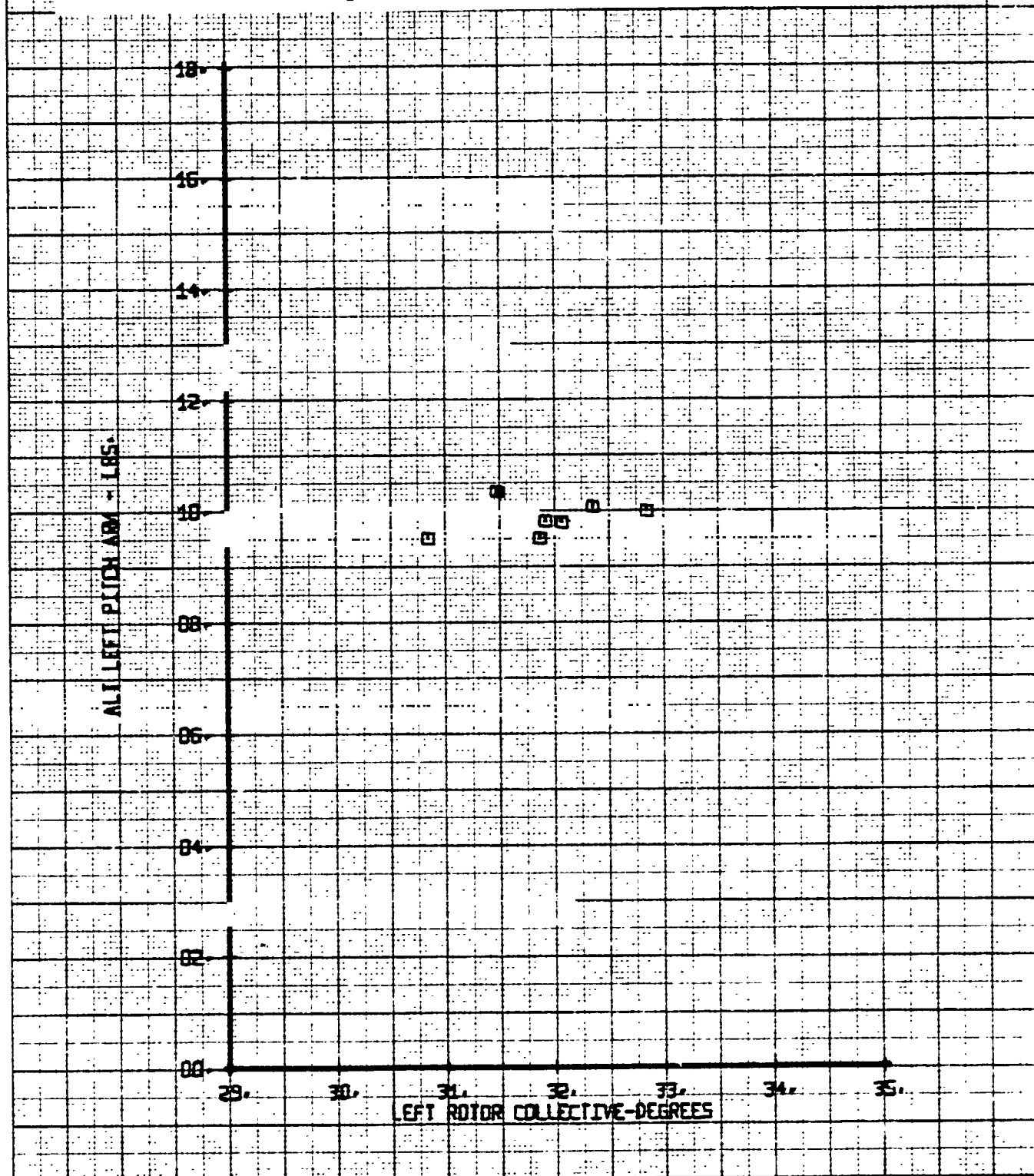






BVWT 182	YR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	BLN	IN-HAC	KNOTS-F.S.	ALPHA-FLS
LEFT ROTOR DATA		□	115	30	180	-6
						FLAP 31

Figure 11-117. Alt. Left Pitch Link Load Versus Left Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



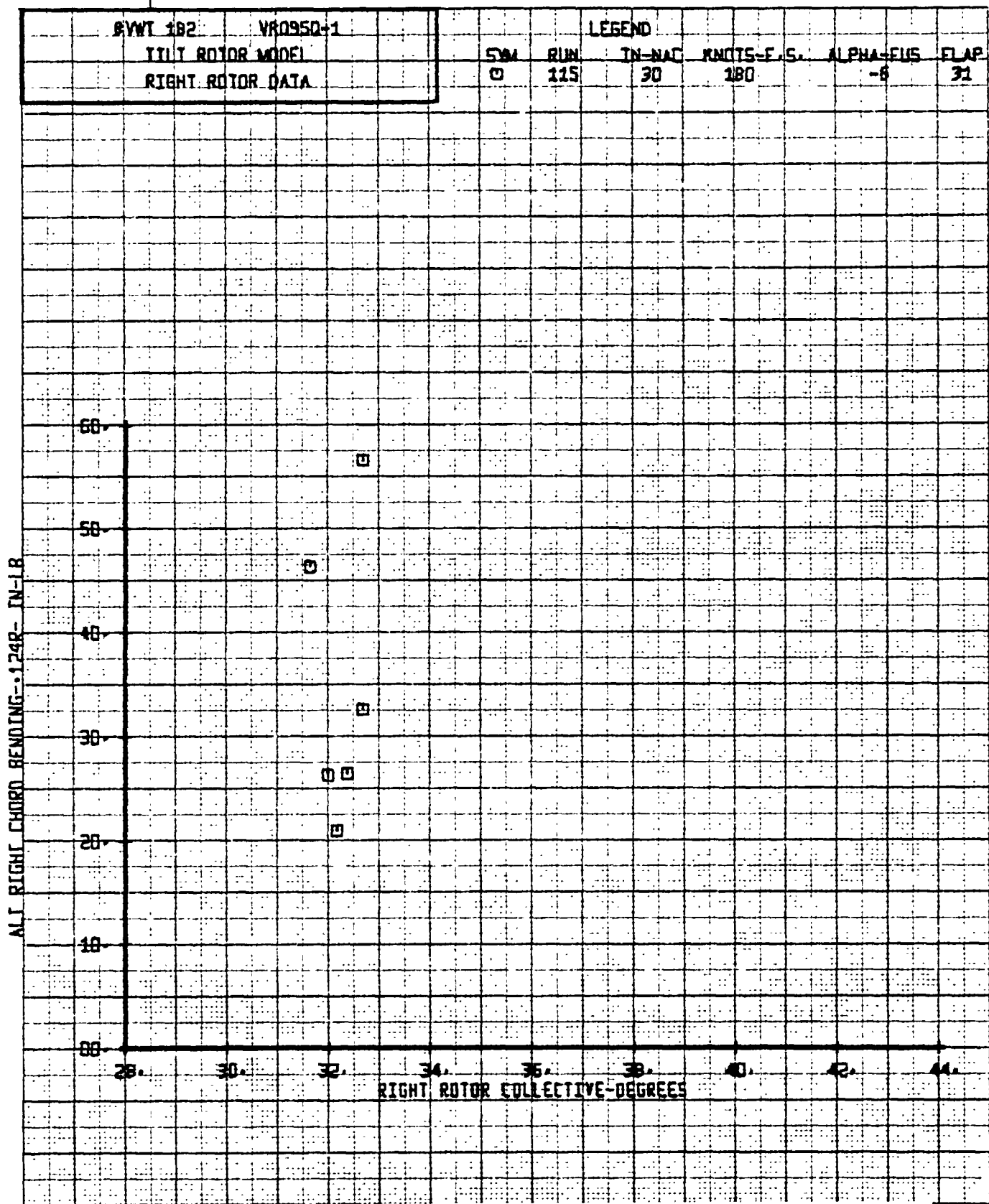
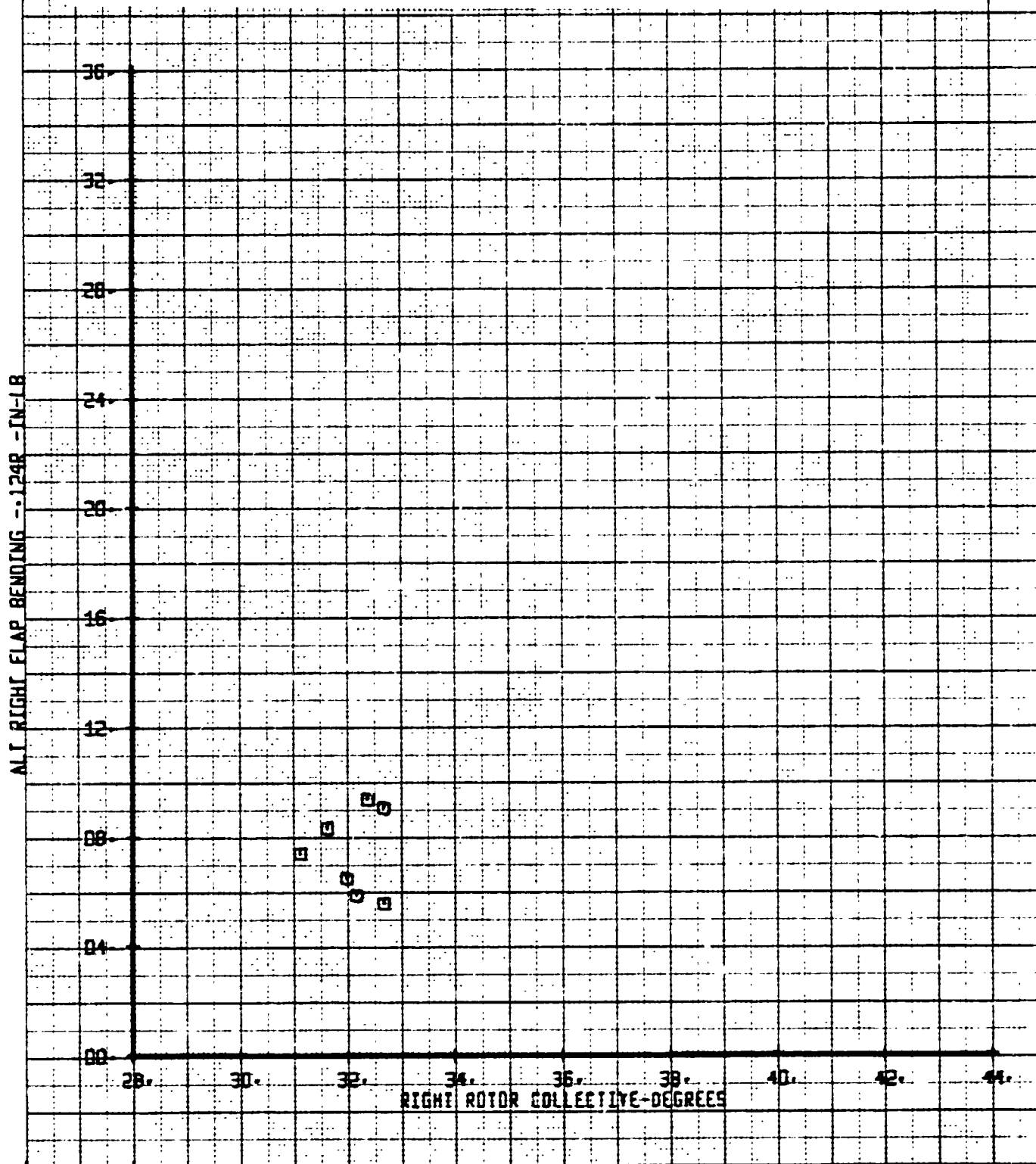


Figure 11-118. Alt. Right Chord Bending Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

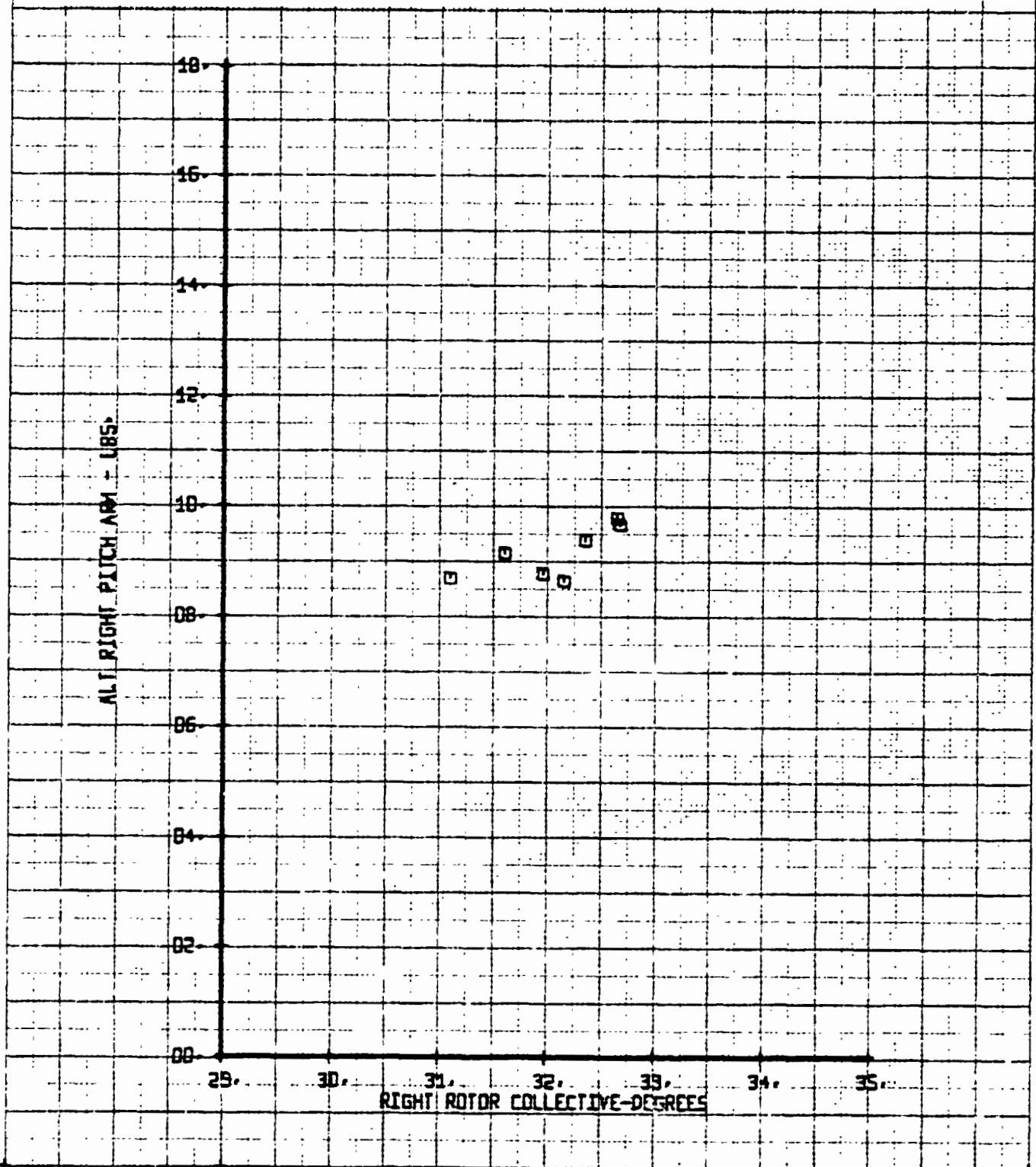
BVWT 182	VR0950-1	LEGEND				
TITUT ROTOR MODEL		SW	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	115	30	180	-6
						FLAP 31

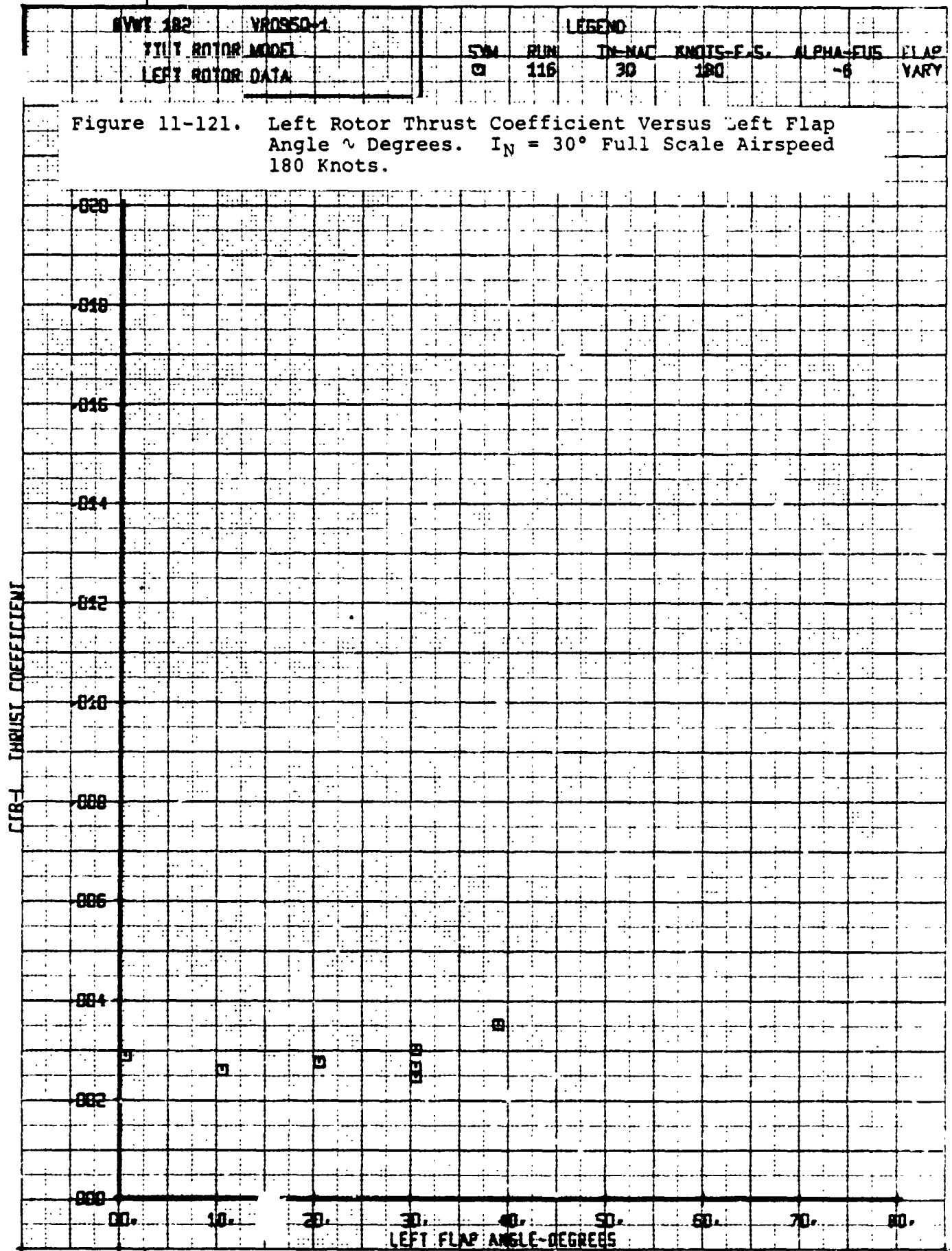
Figure 11-119. Alt. Right Flap Bending Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.

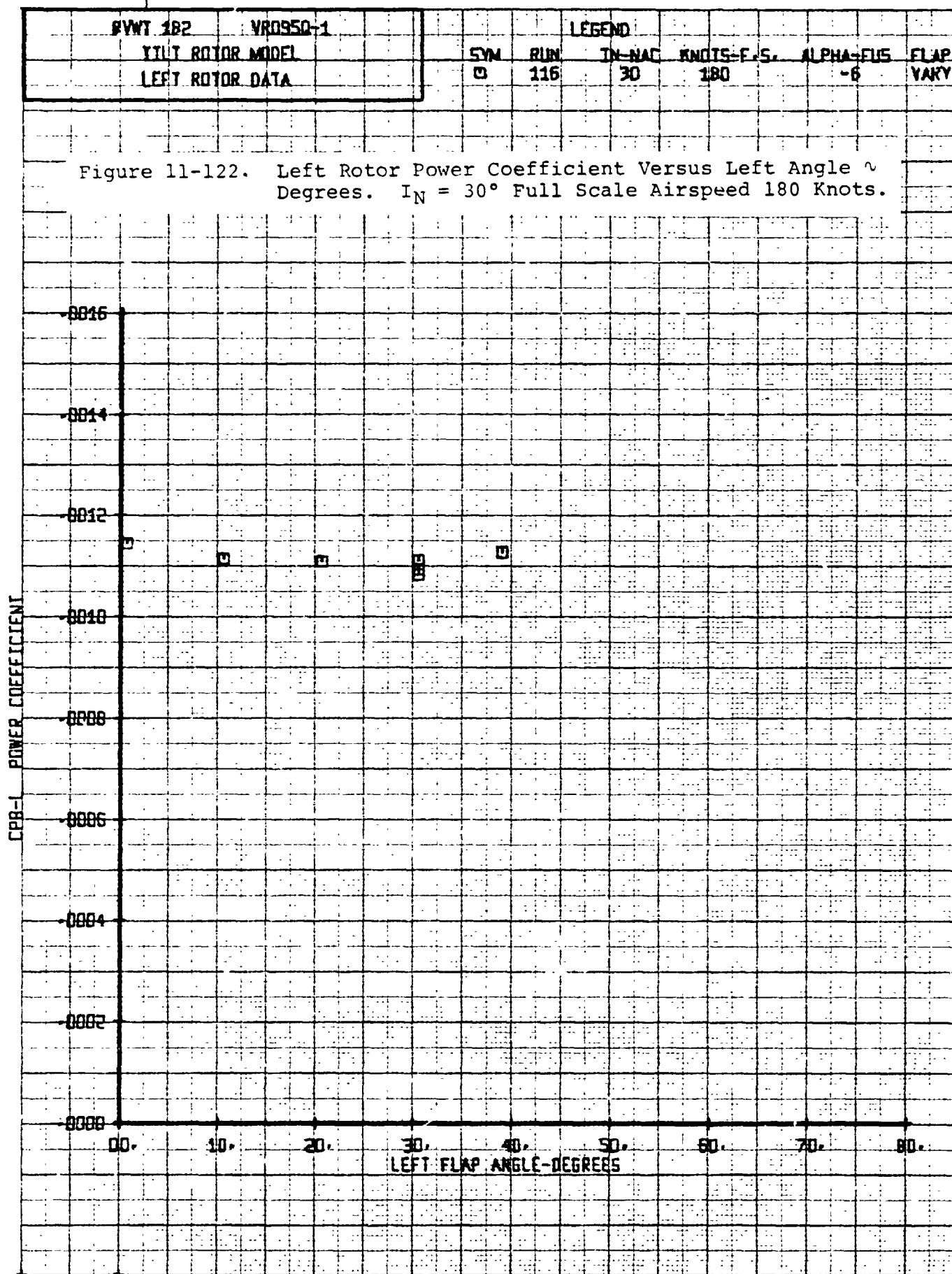


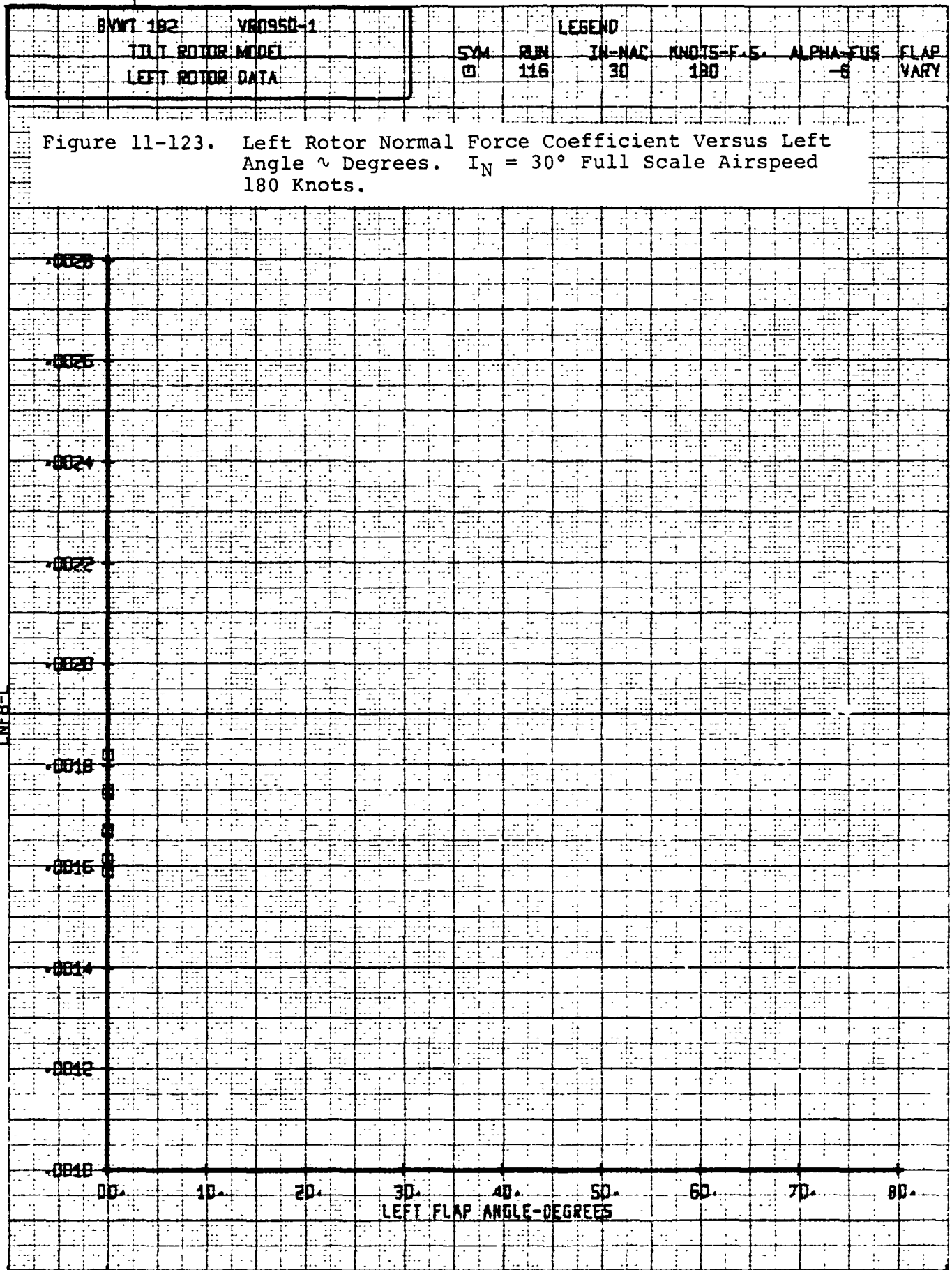
BVWT 182	YR0950-1	LEGEND				
RIGHT ROTOR MODEL		SYM	RUN	IN-HAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	115	30	180	-6
						FLAP 31

Figure 11-120. Alt. Right Pitch Link Load Versus Right Rotor Collective ~ Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.









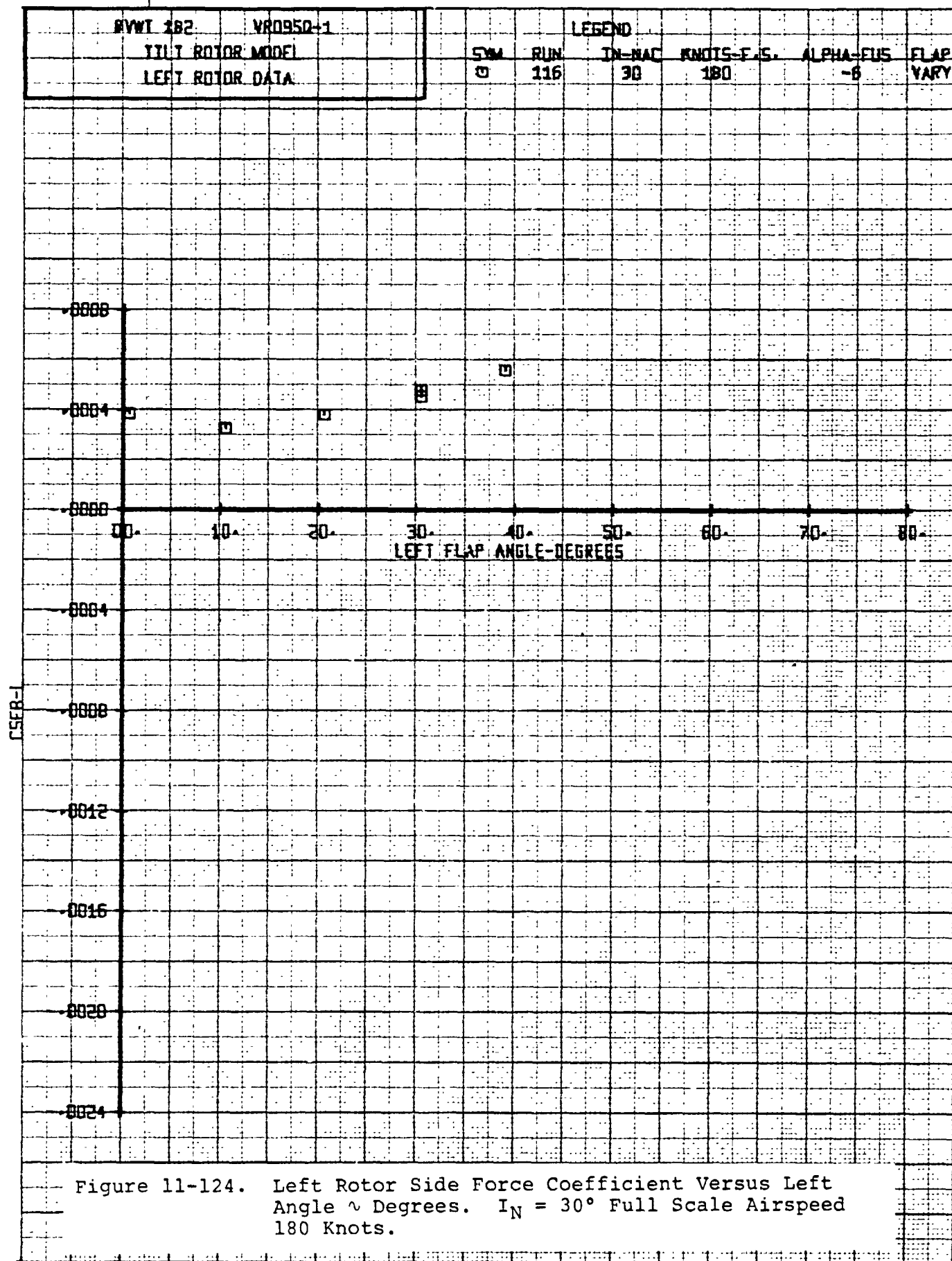
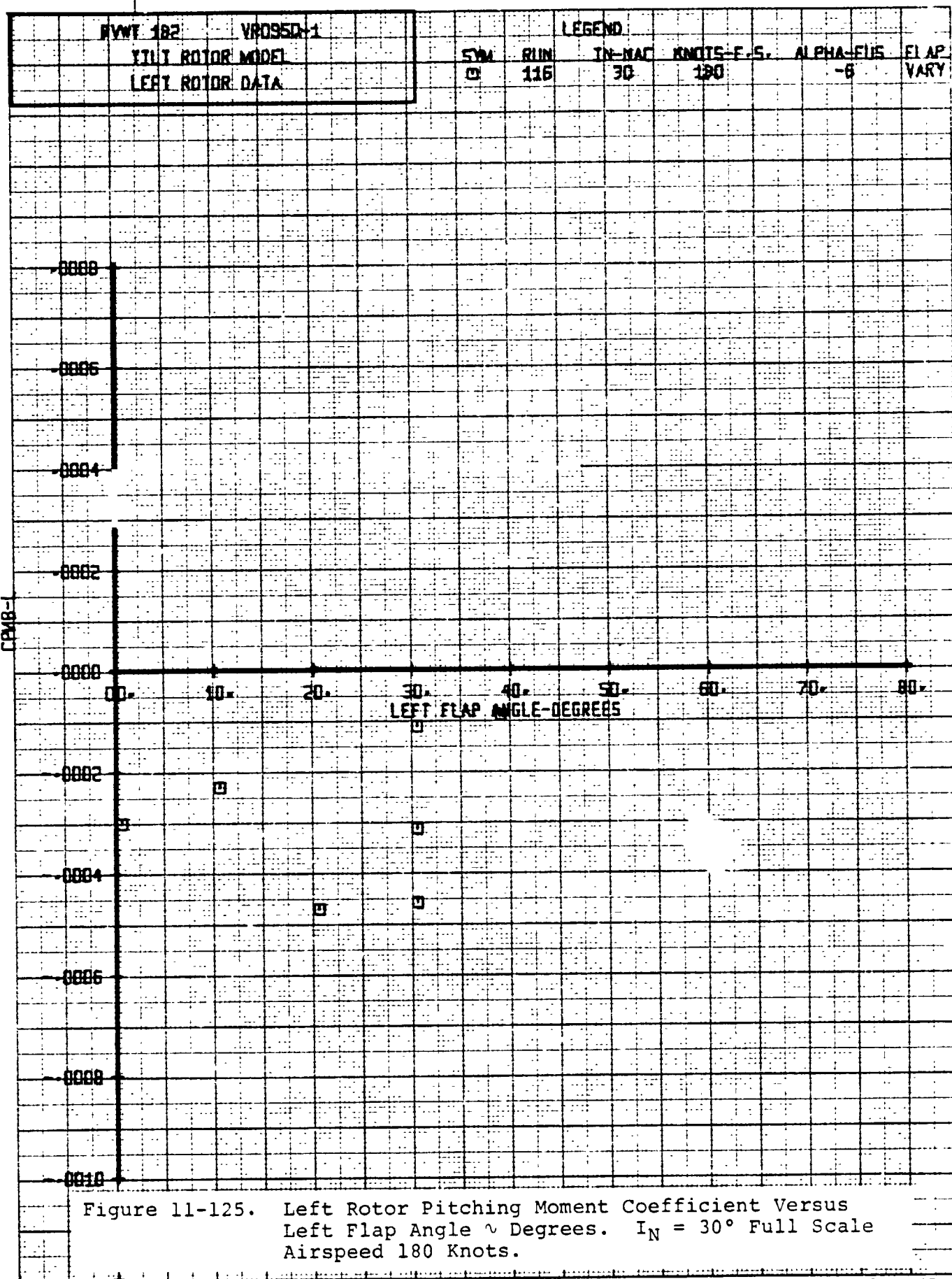


Figure 11-124. Left Rotor Side Force Coefficient Versus Left Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



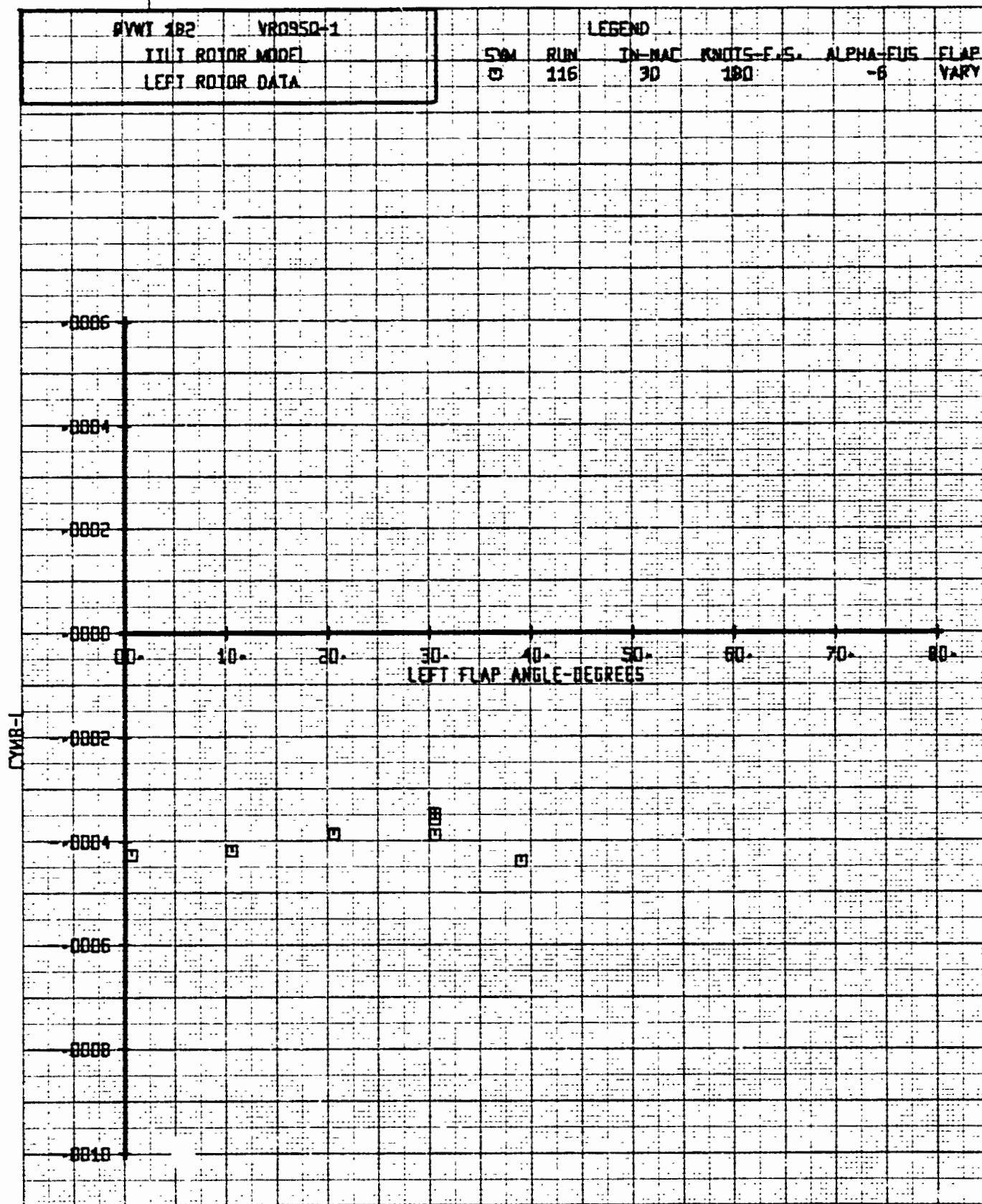
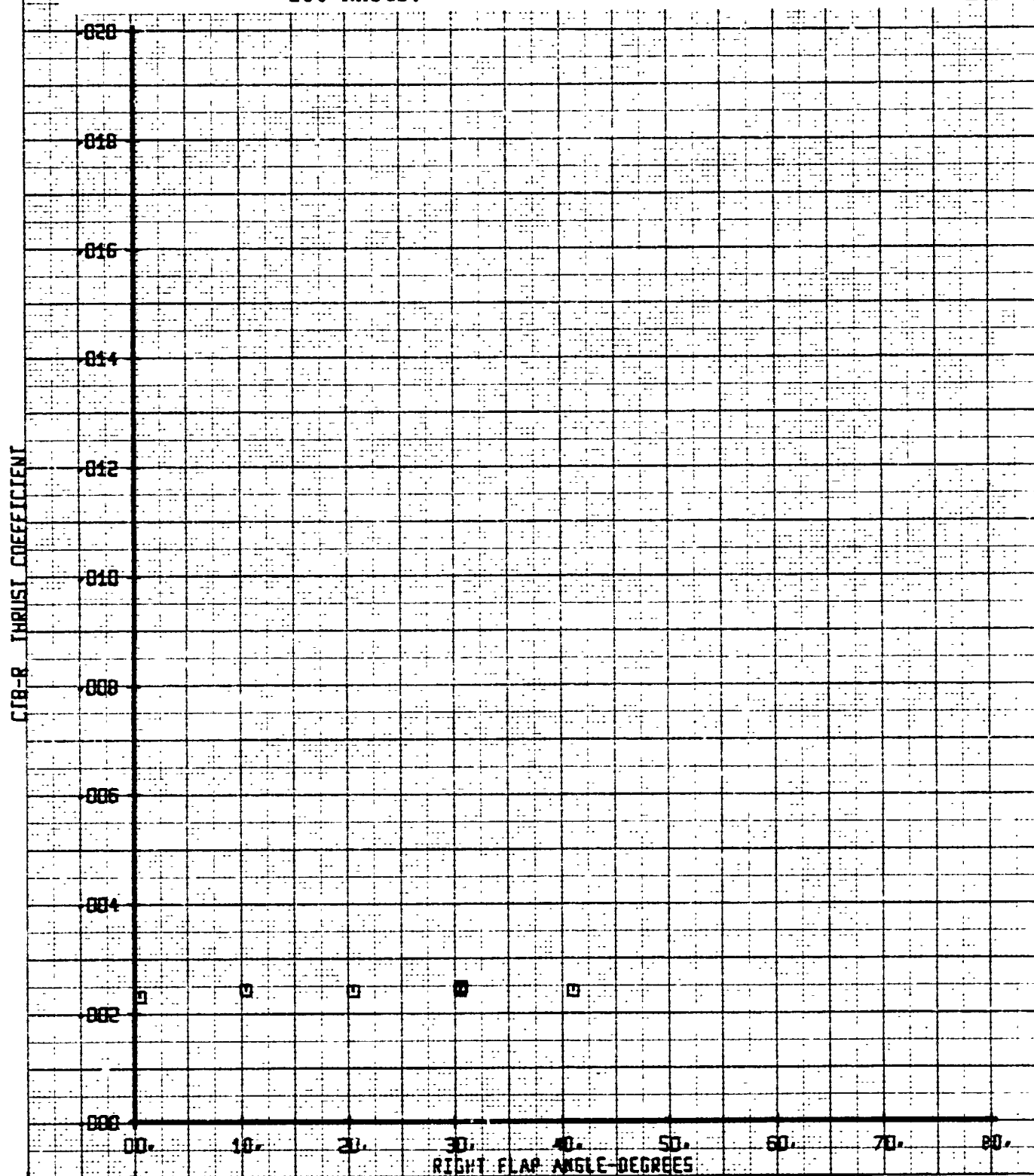


Figure 11-126. Left Rotor Yawing Moment Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

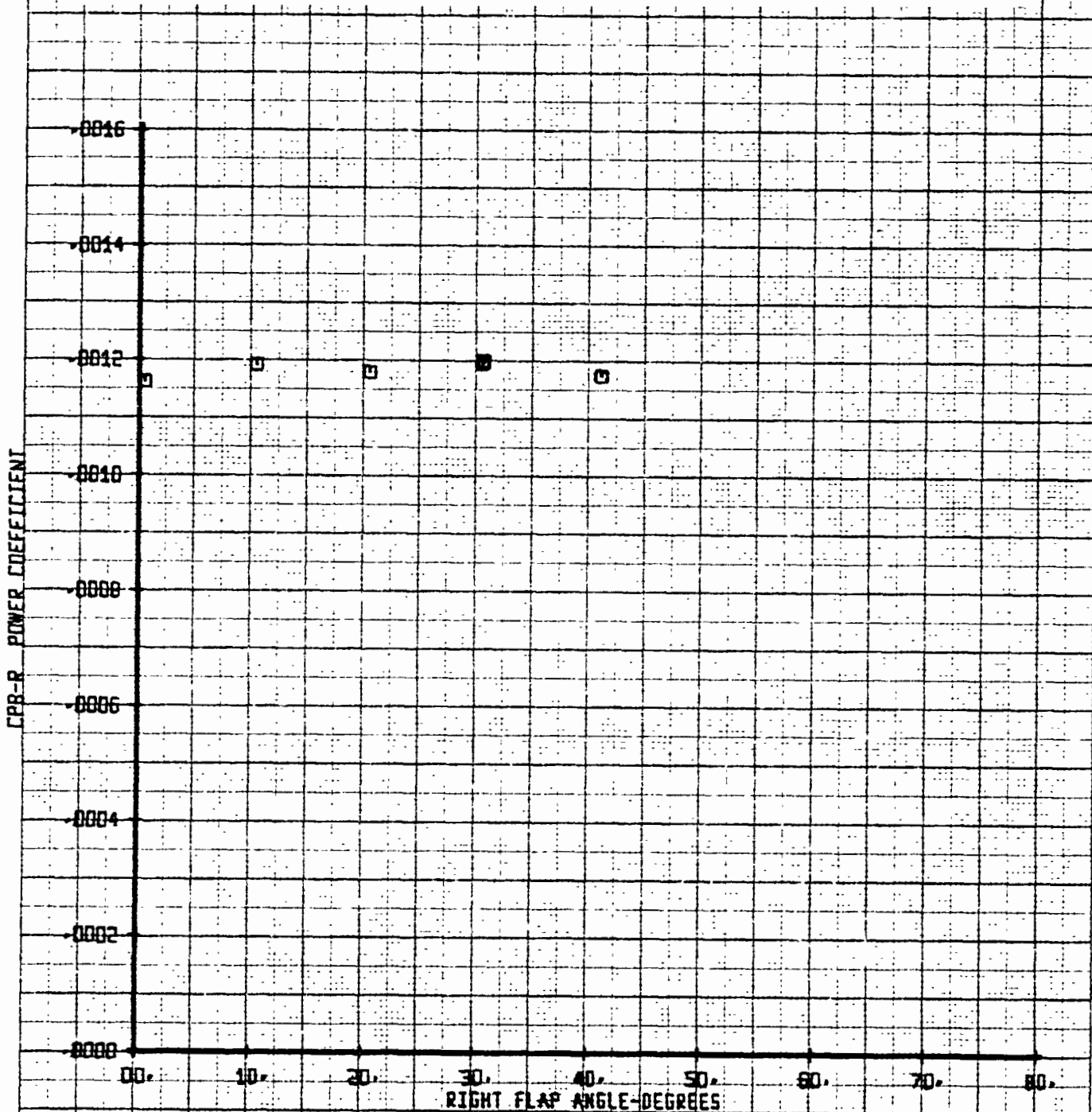
BVWT 182	VR0950-1	LEGEND						
LEFT ROTOR * 10E1		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-EUS	EL AP	
RIGHT ROTOR DATA		□	116	30	180	-6	VARY	

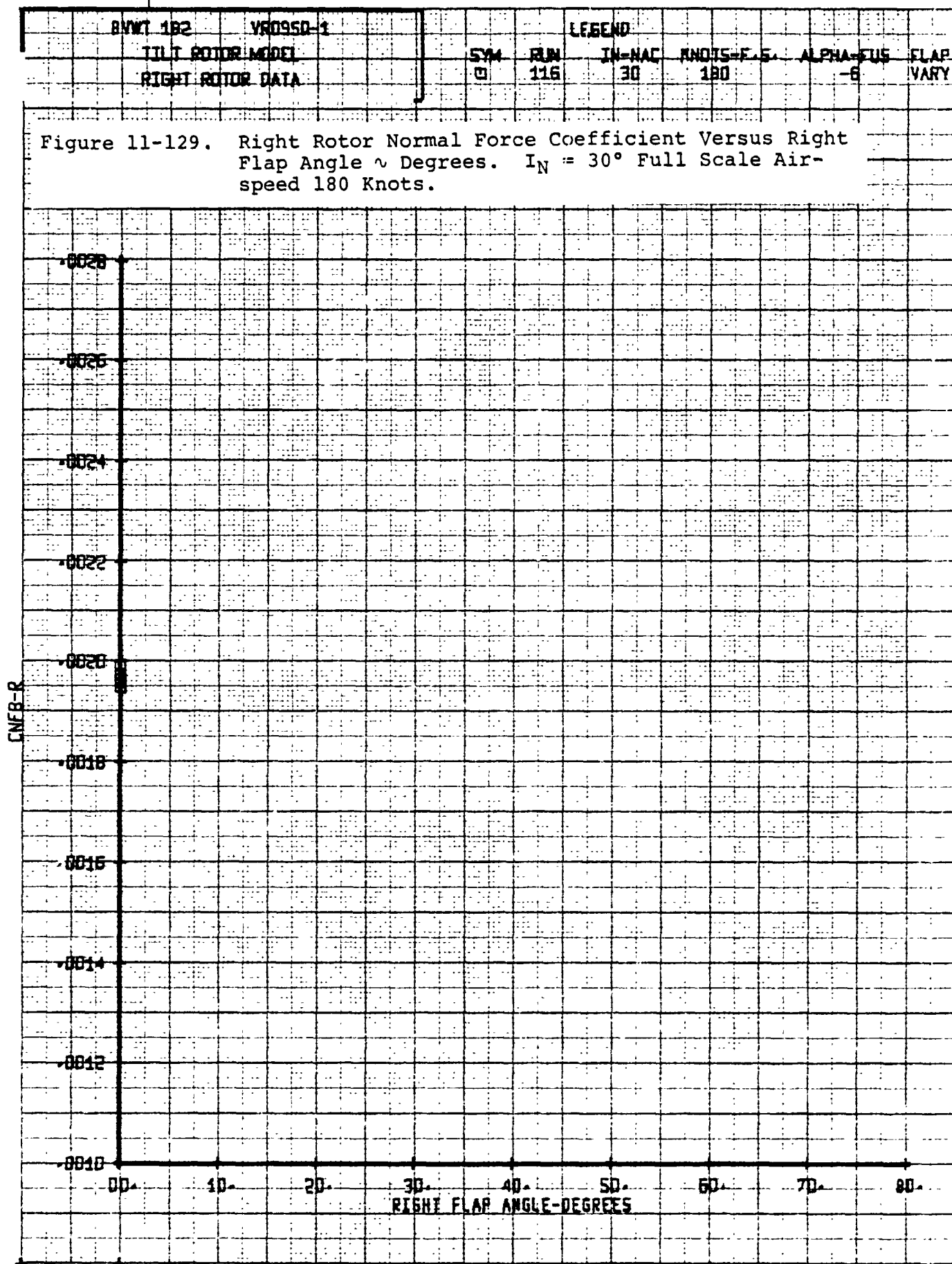
Figure 11-127. Right Rotor Thrust Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

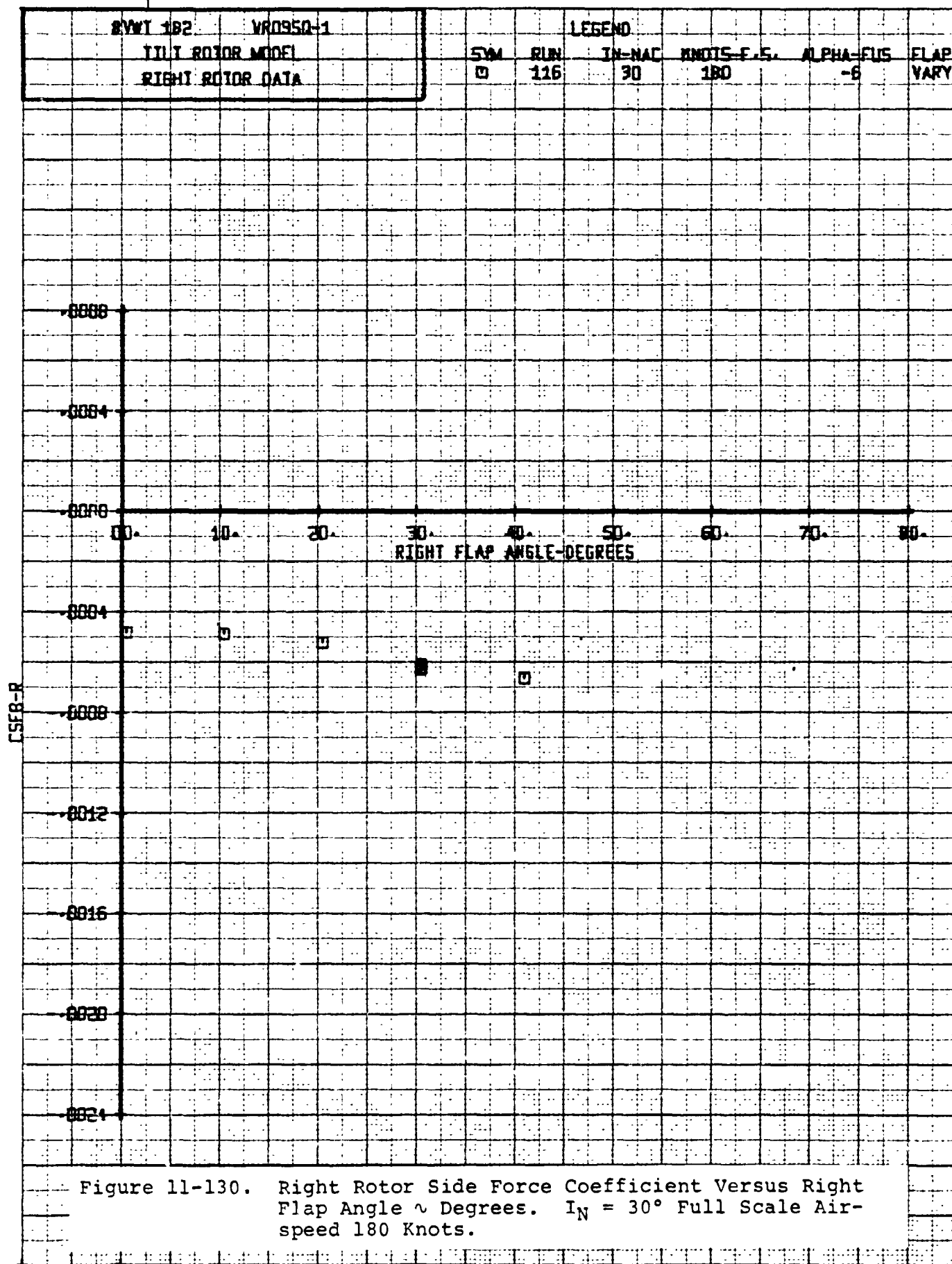


BVWT 182	VR0950-1	LEGEND					
RIGHT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR DATA		0	116	30	180	-6	VARY

Figure 11-128. Right Rotor Power Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.







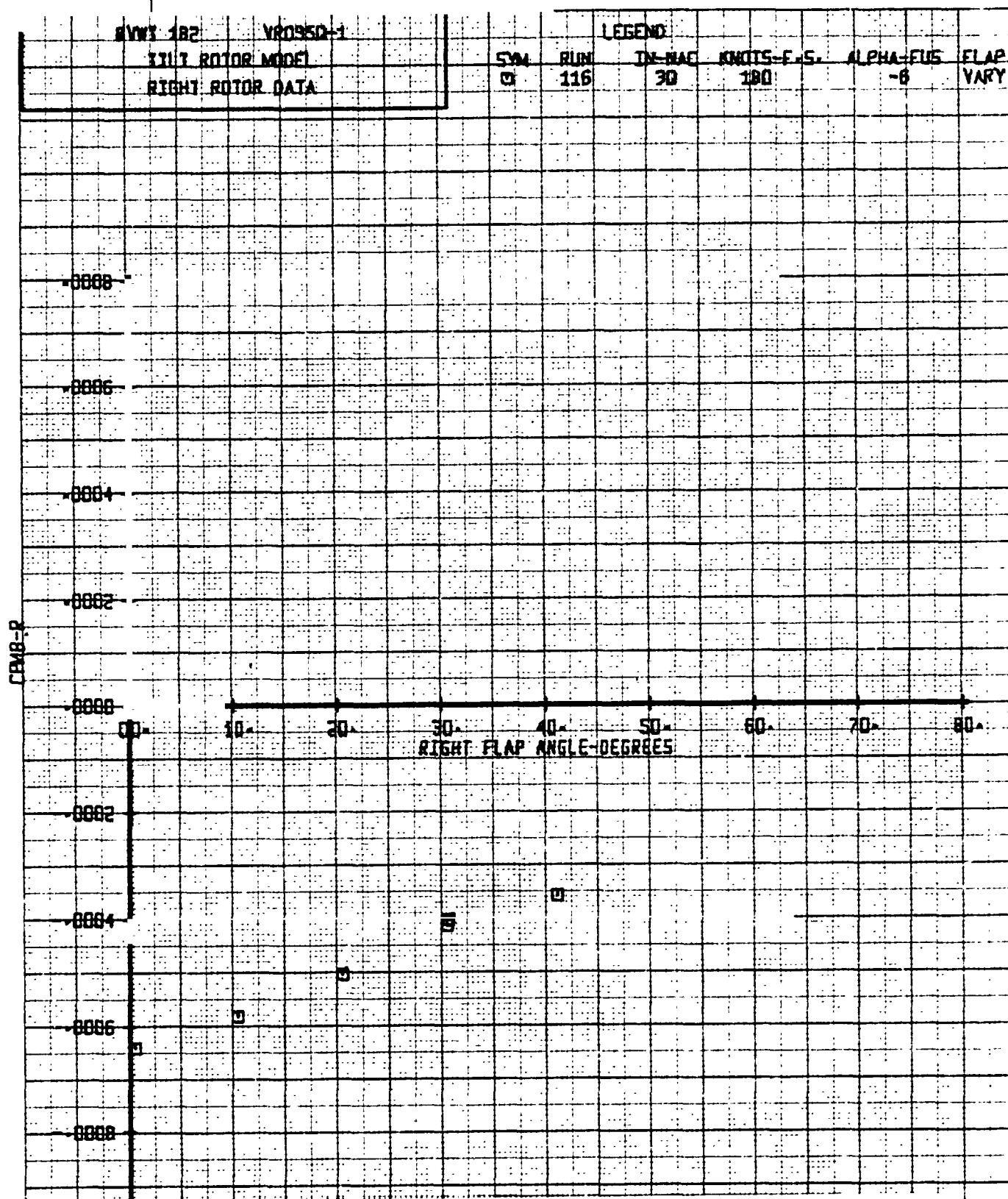
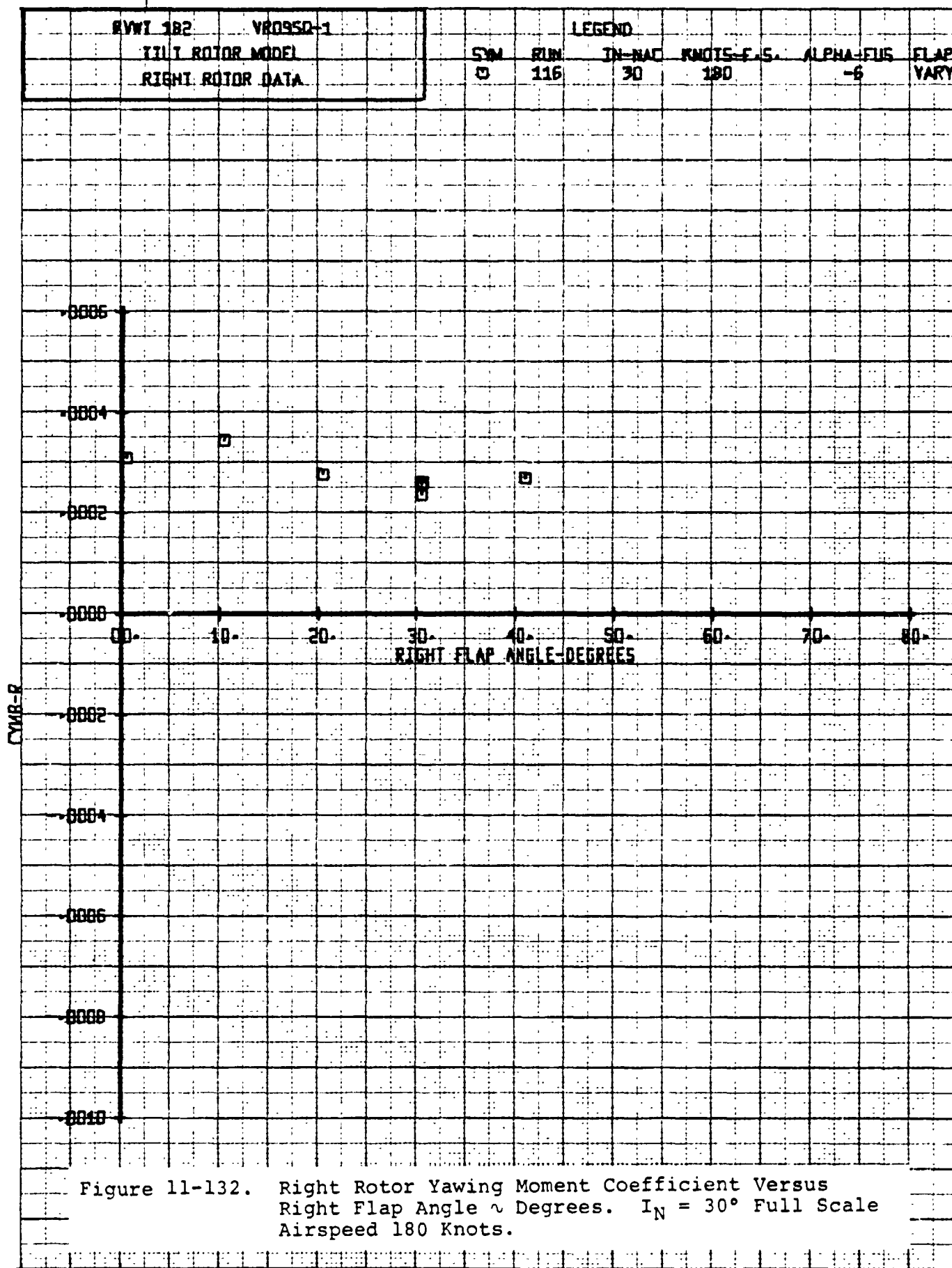
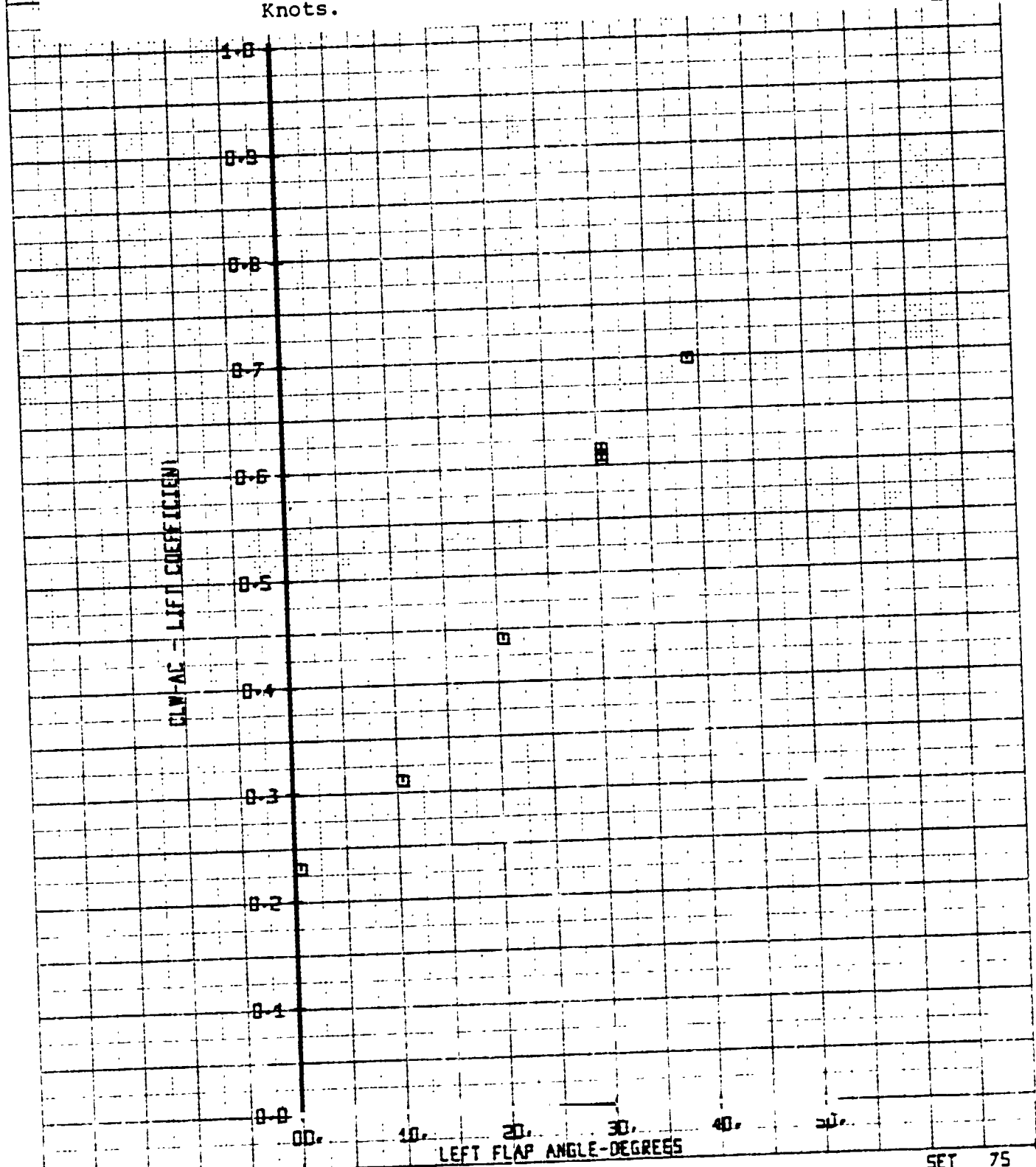


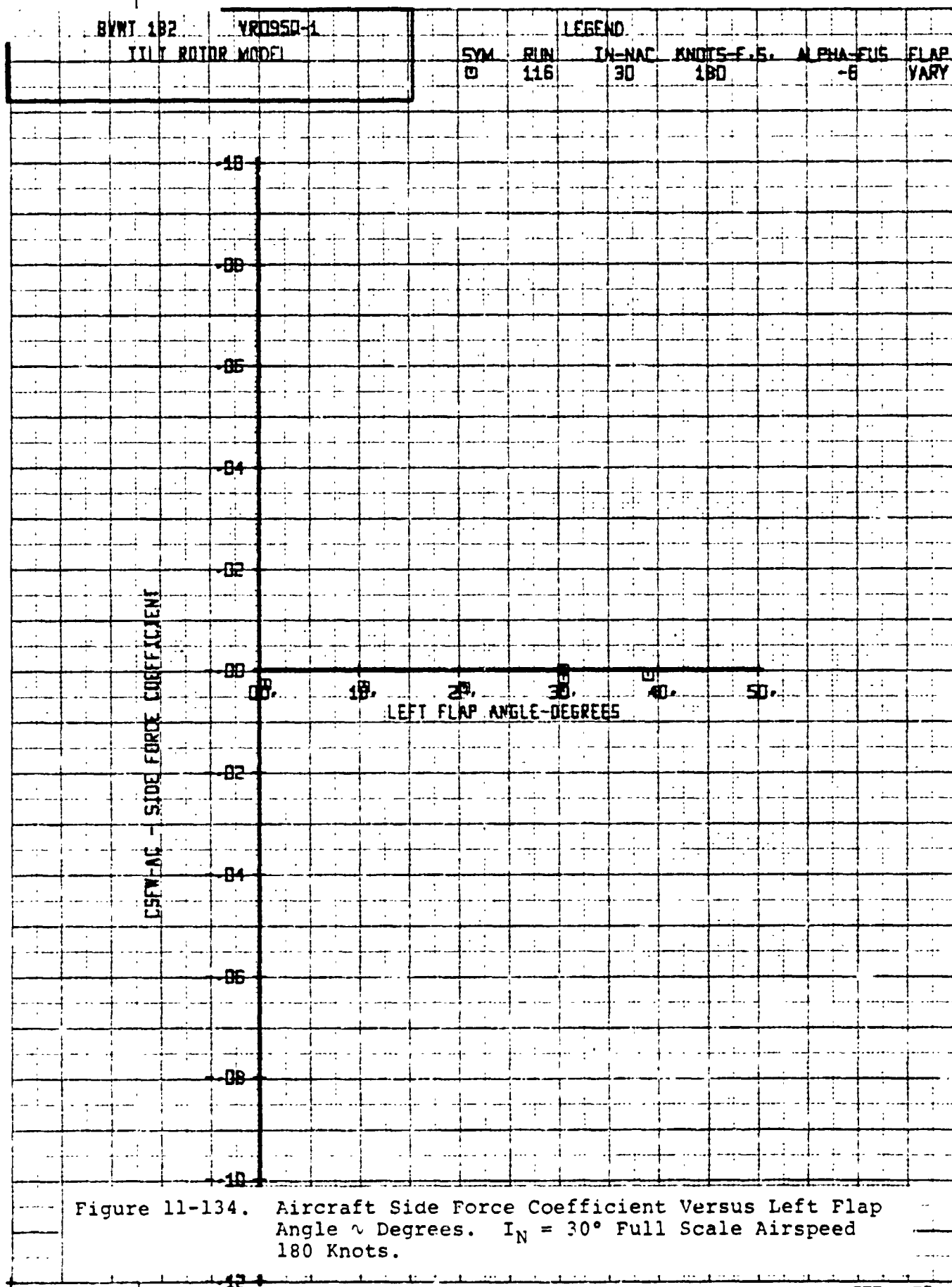
Figure 11-131. Right Rotor Pitching Moment Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182		VRC950-1		LEGEND		IN-NAC		KNOTS-E.S.		ALPHA-EUS		FLAP	
TILT ROTOR MODEL				SYM	RUN	30		180		-6		VARY	
				0	116								

Figure 11-133. Aircraft Lift Coefficient Versus Left Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180
 Knots.





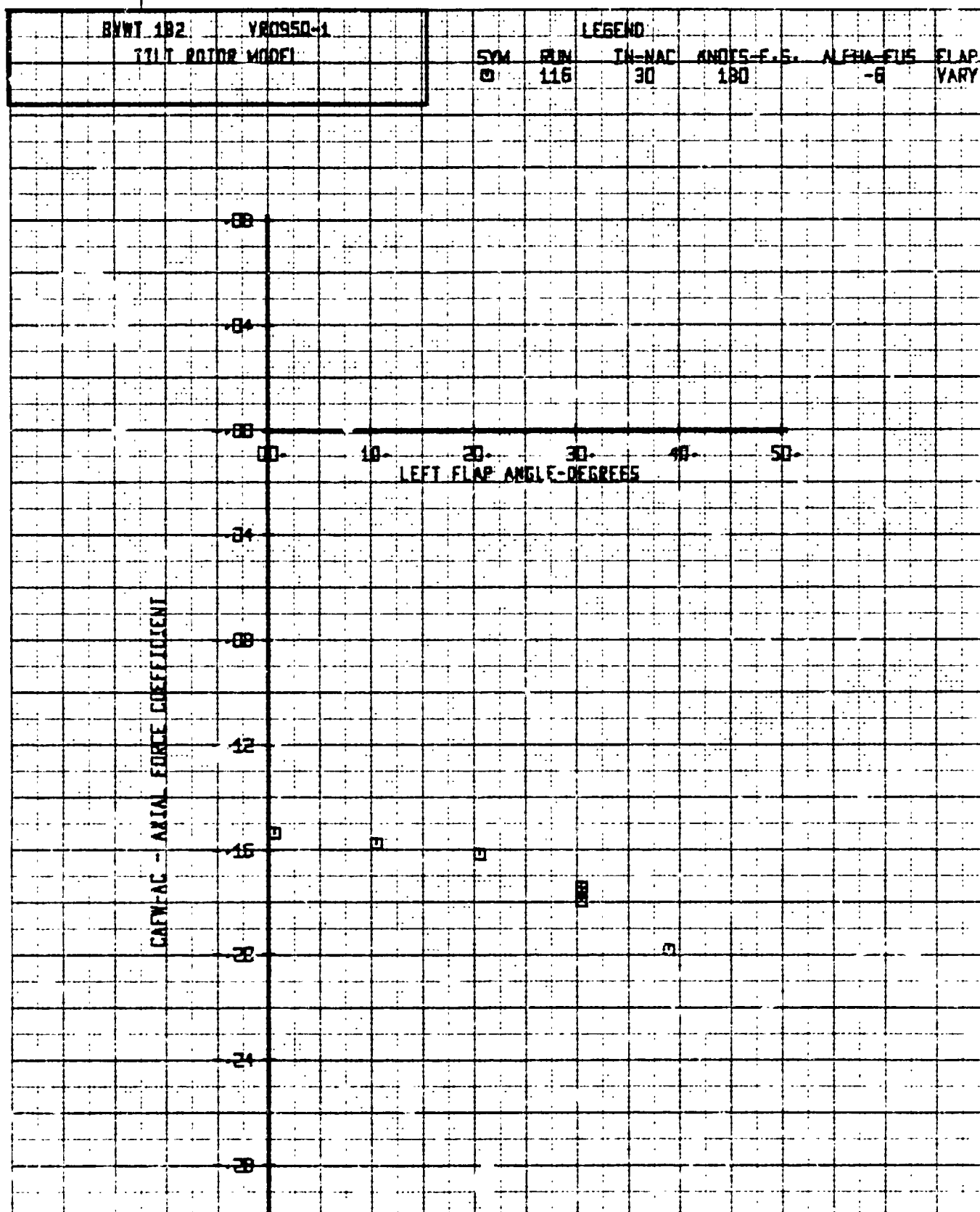


Figure 11-135. Aircraft Axial Force Coefficient Versus Left Flap Angle α Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

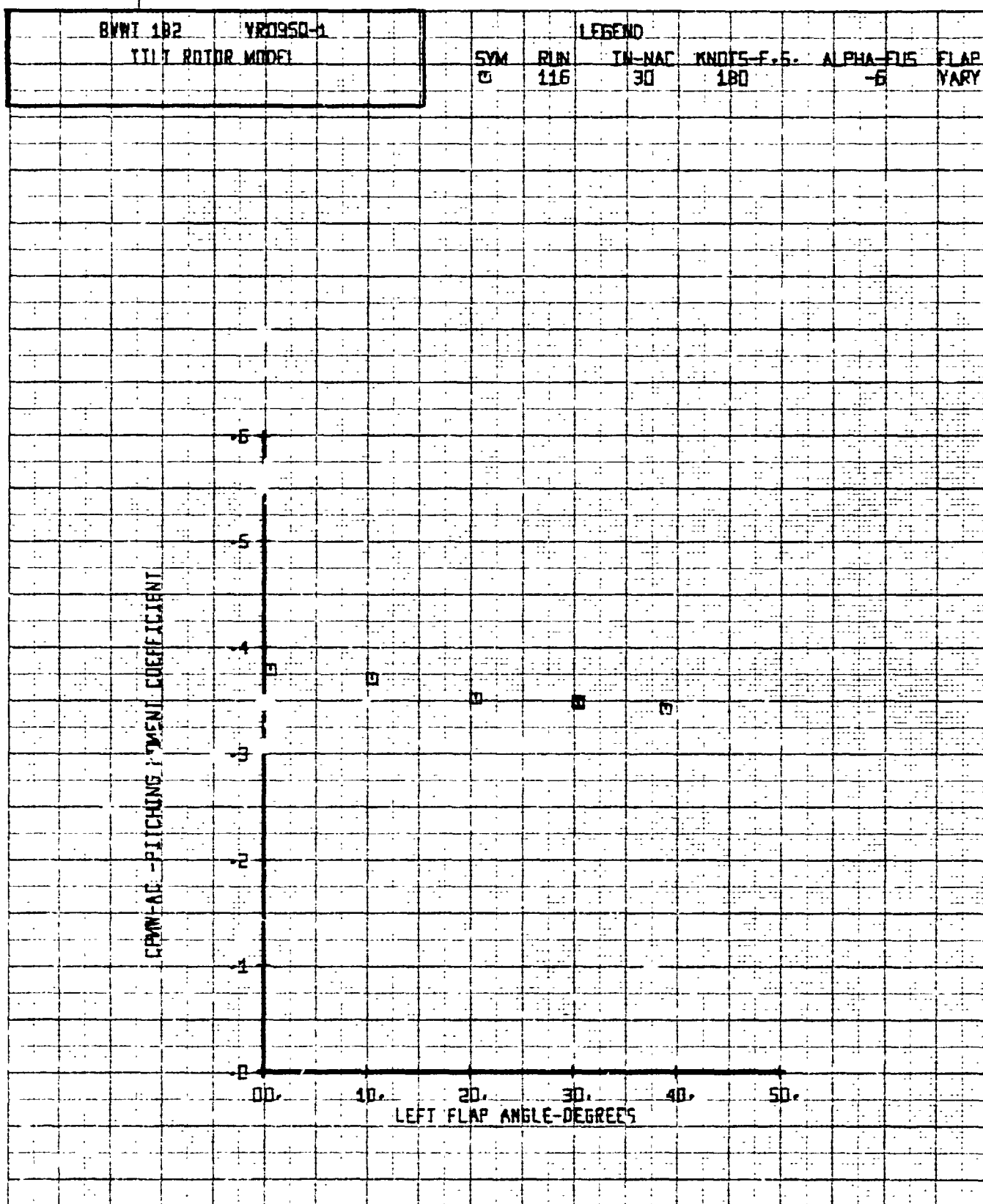


Figure 11-136. Aircraft Pitching Moment Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

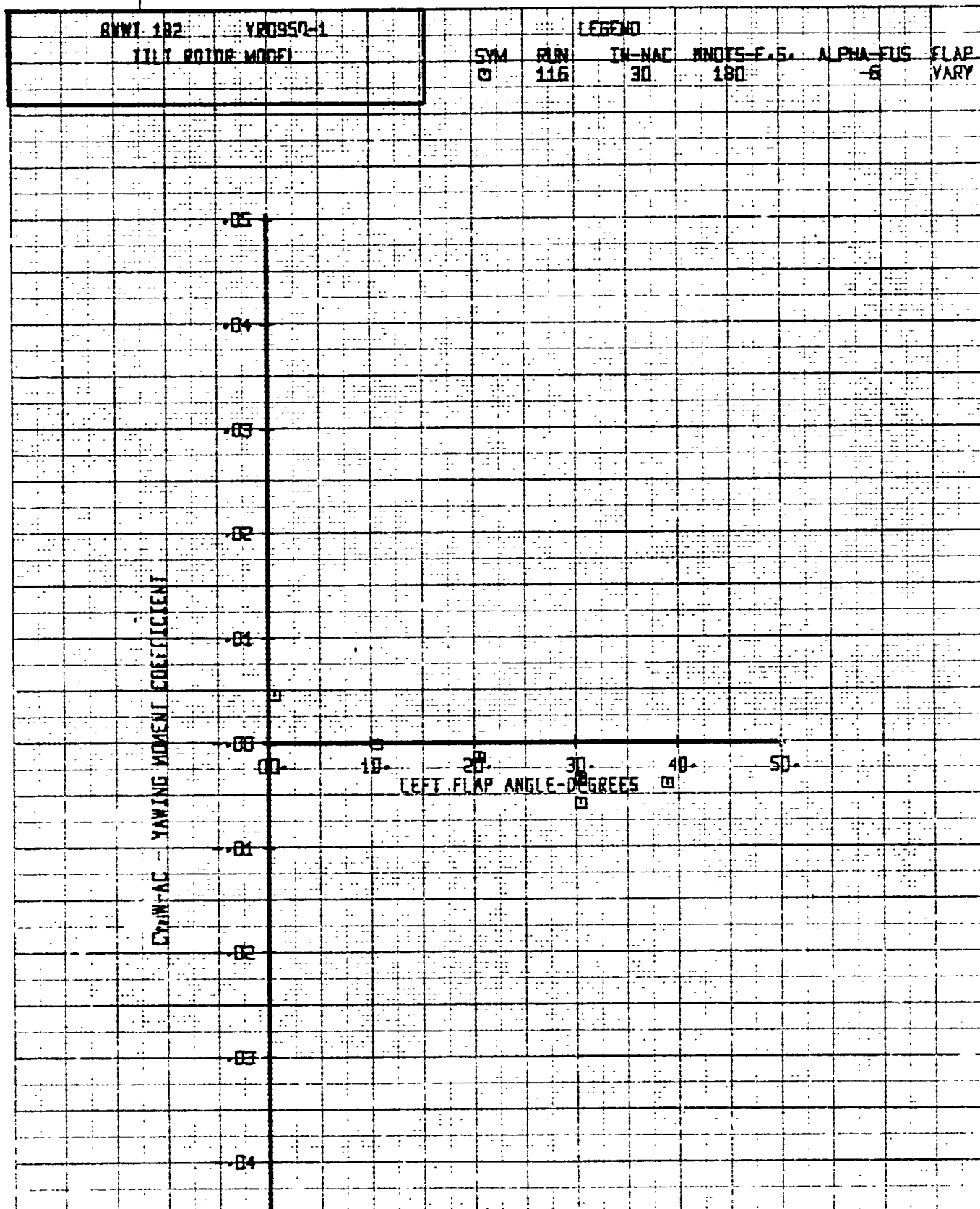
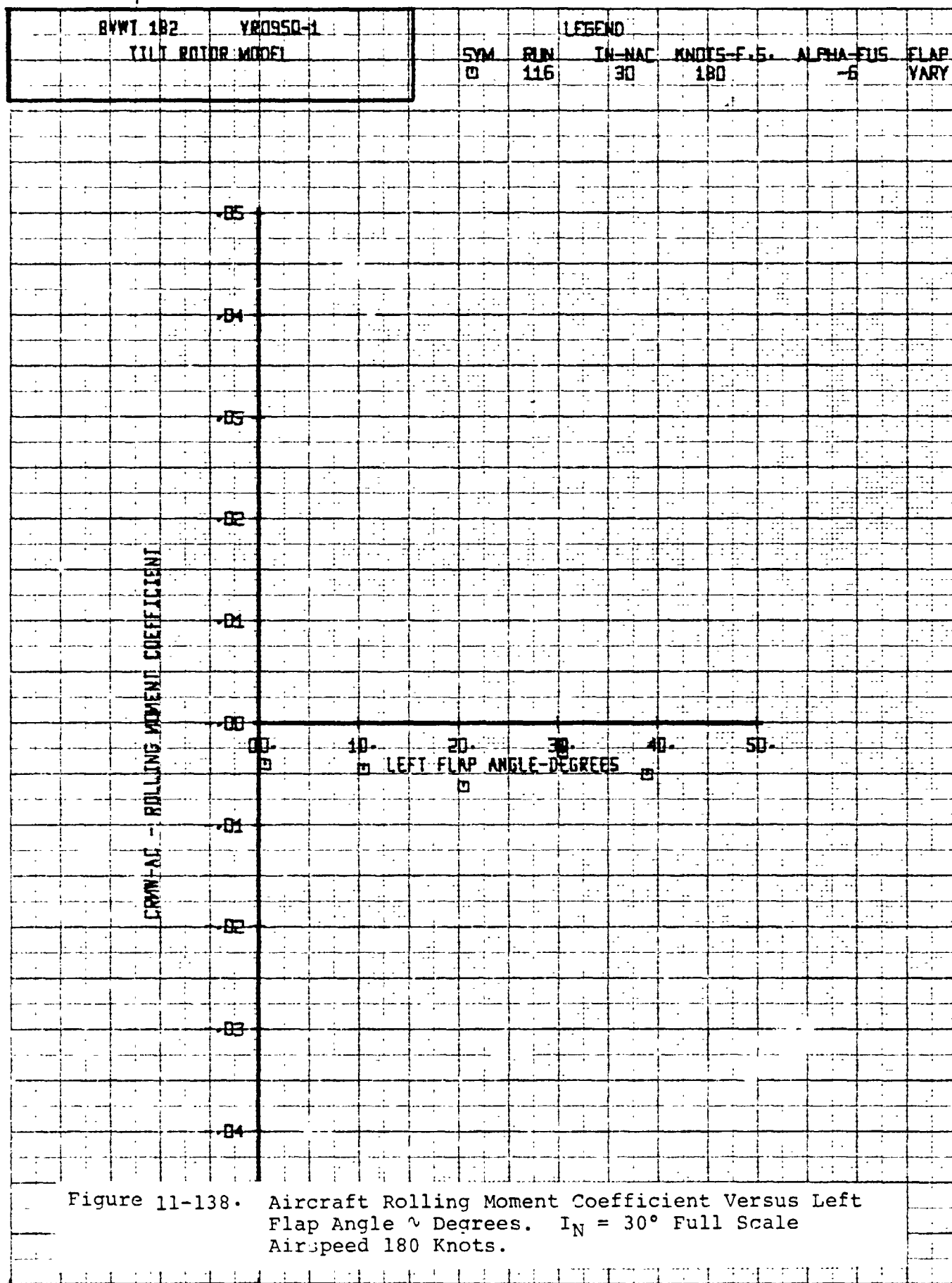


Figure 11-137. Aircraft Yawing Moment Coefficient Versus Left Flap Angle α Degrees. $I_N = 30^\circ$ Full Scale
Airspeed 180 Knots.



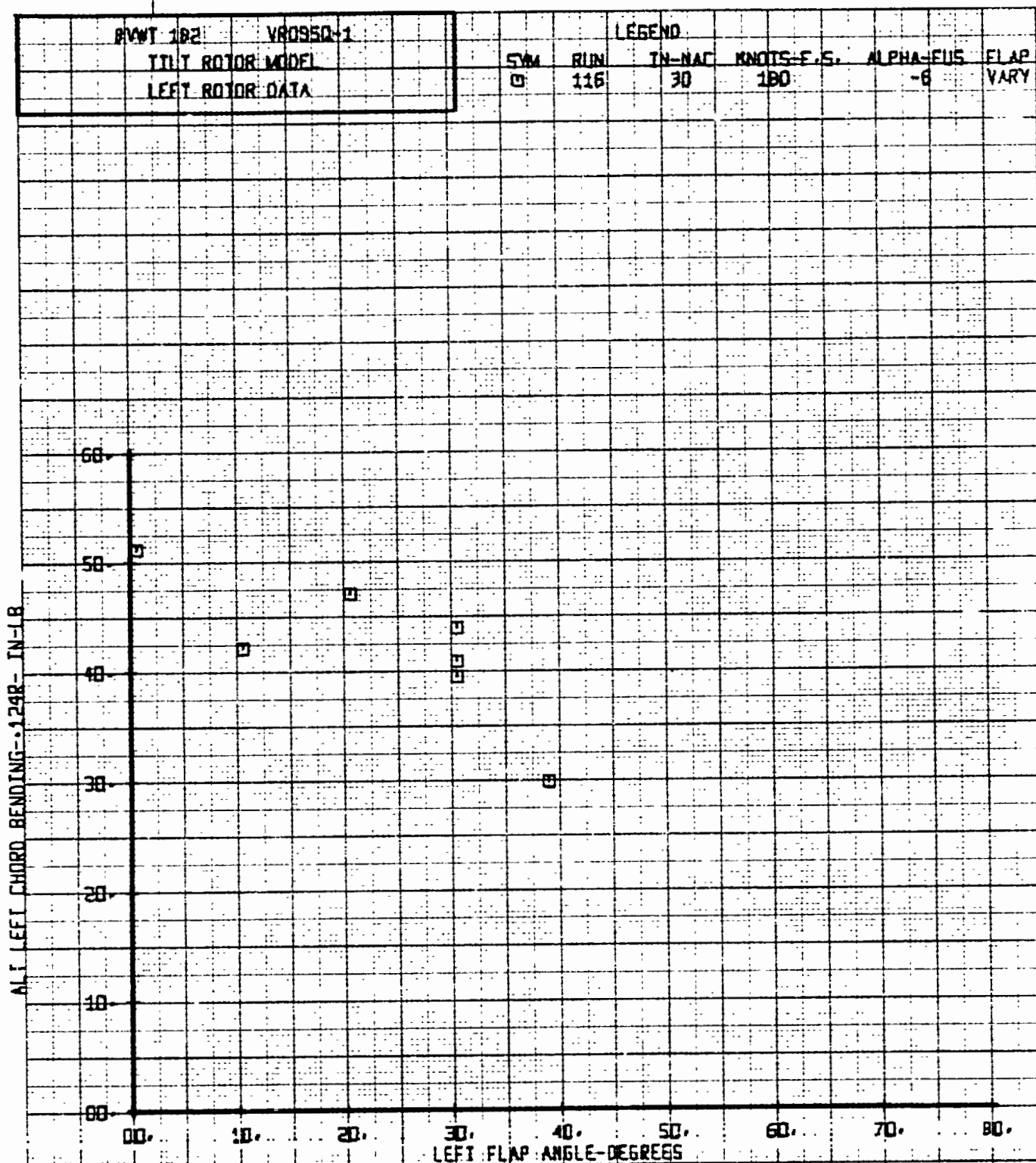
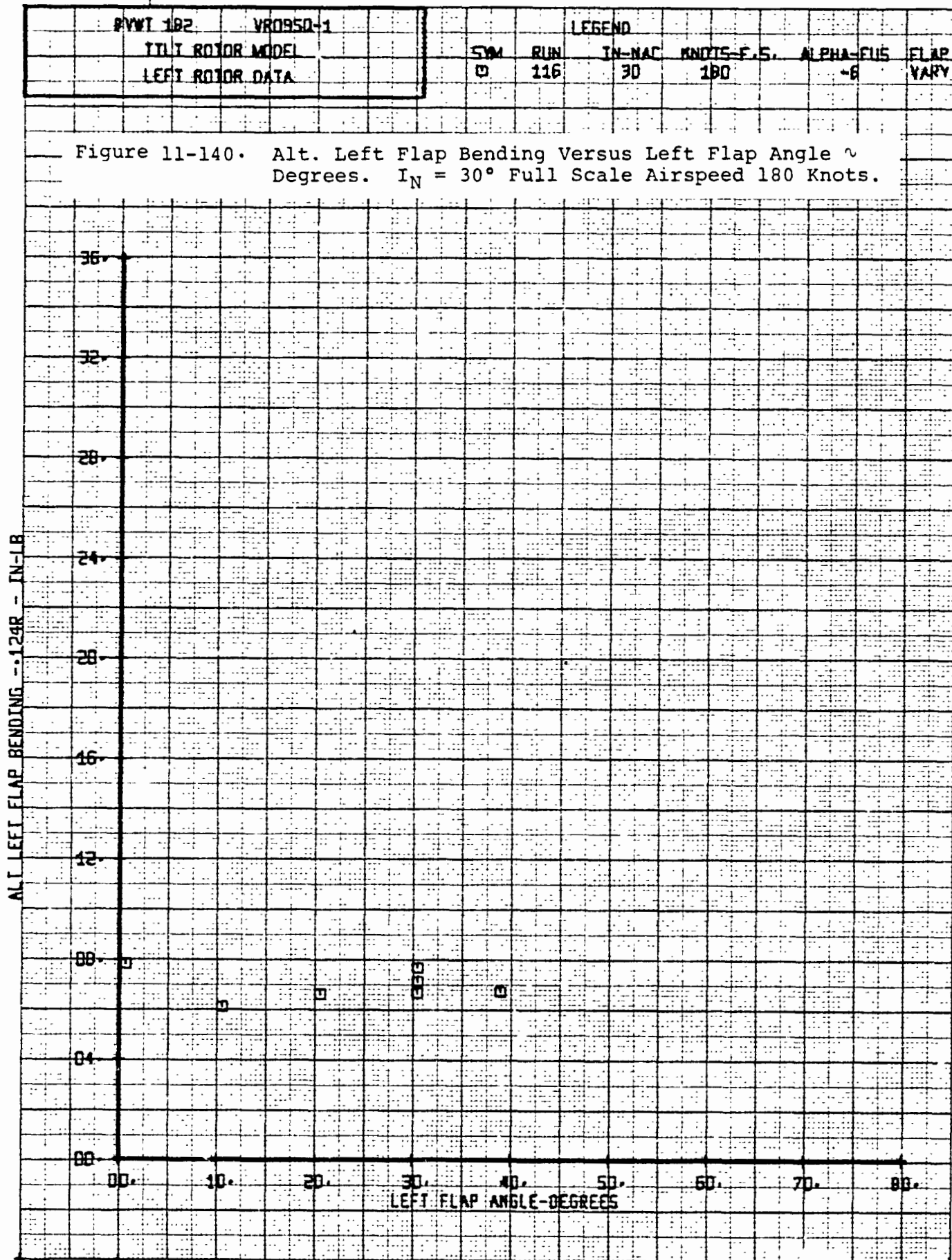
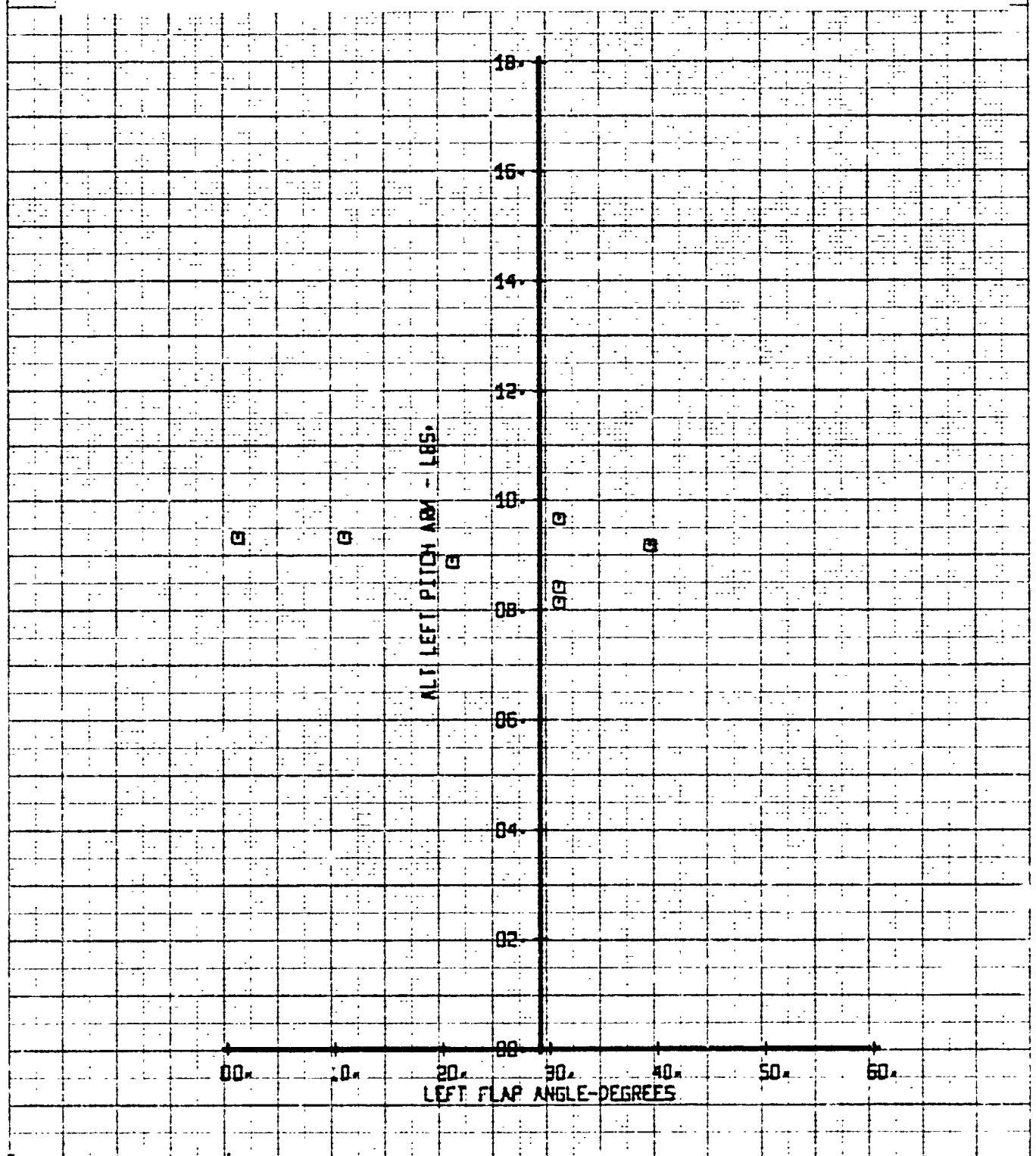


Figure 11-139. Alt. Left Chord Bending Versus Left Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180
 Knots.



RYWT 182	VR0950-1	LEGEND				
TIIT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F-S.	ALPHA-DEG
LEFT ROTOR DATA		0	116	30	180	-5
						FLAP VARY

Figure 11-141. Alt. Left Pitch Link Load Versus Left Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



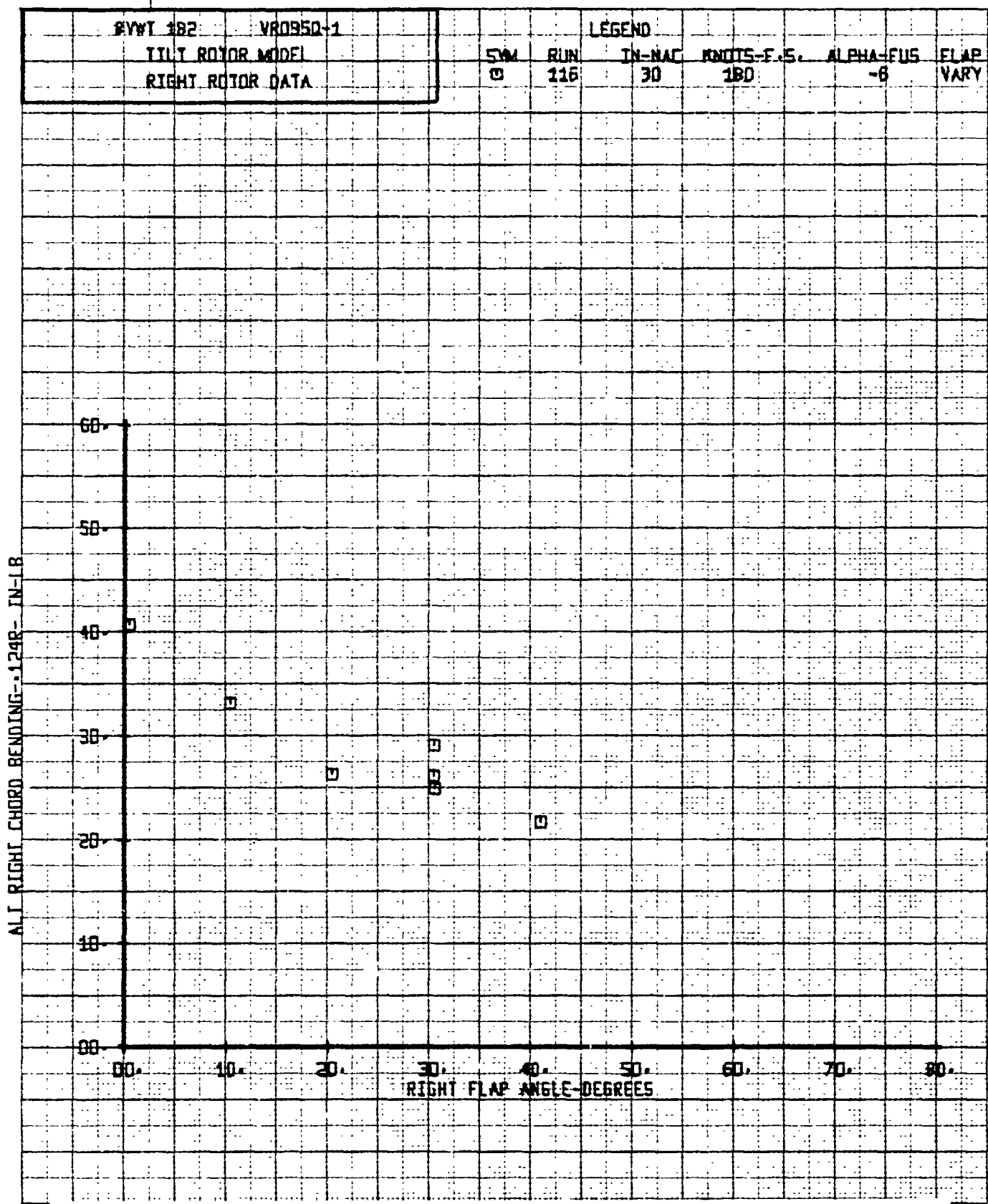
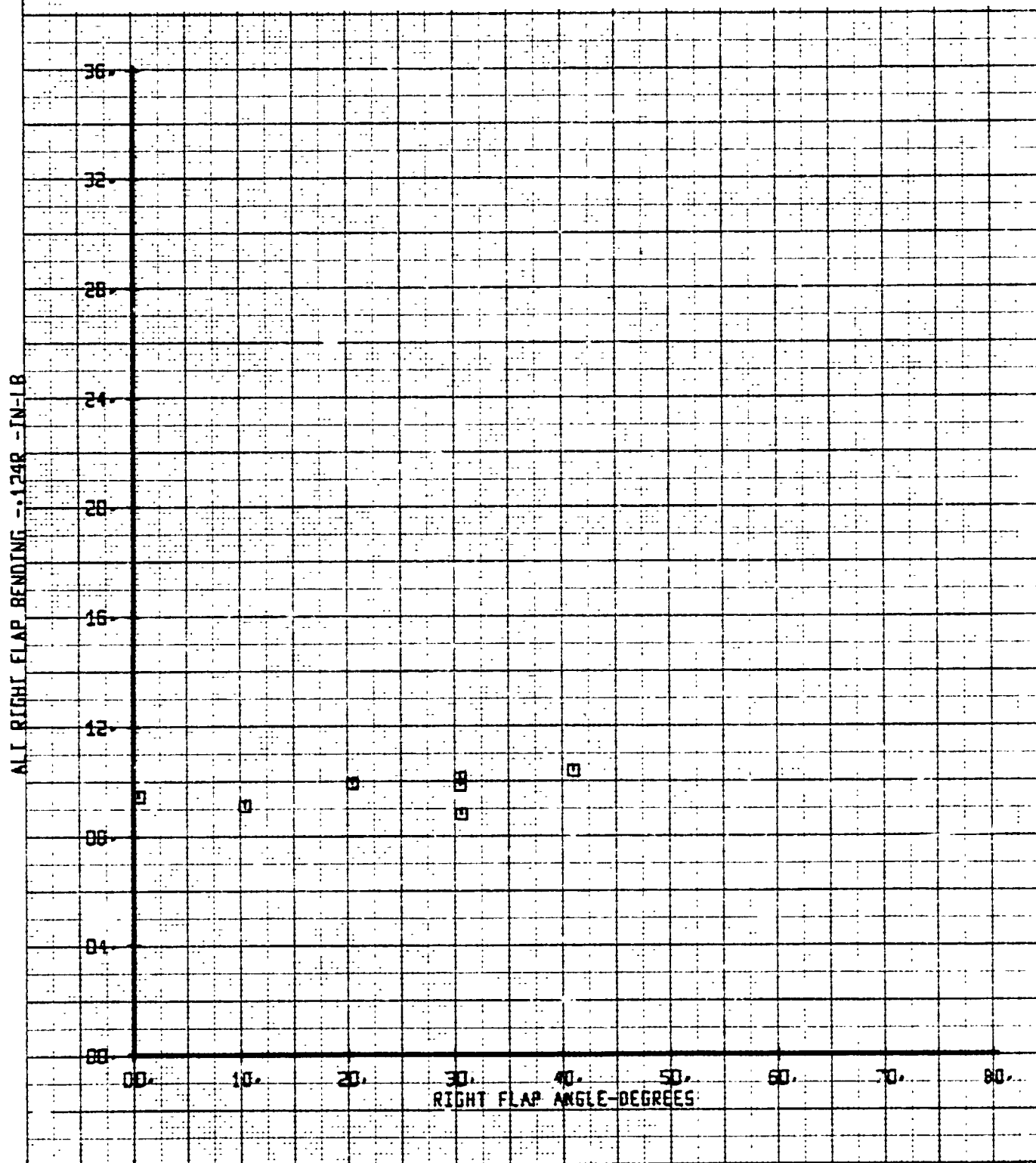


Figure 11-142. Alt. Right Chord Bending Versus Right Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

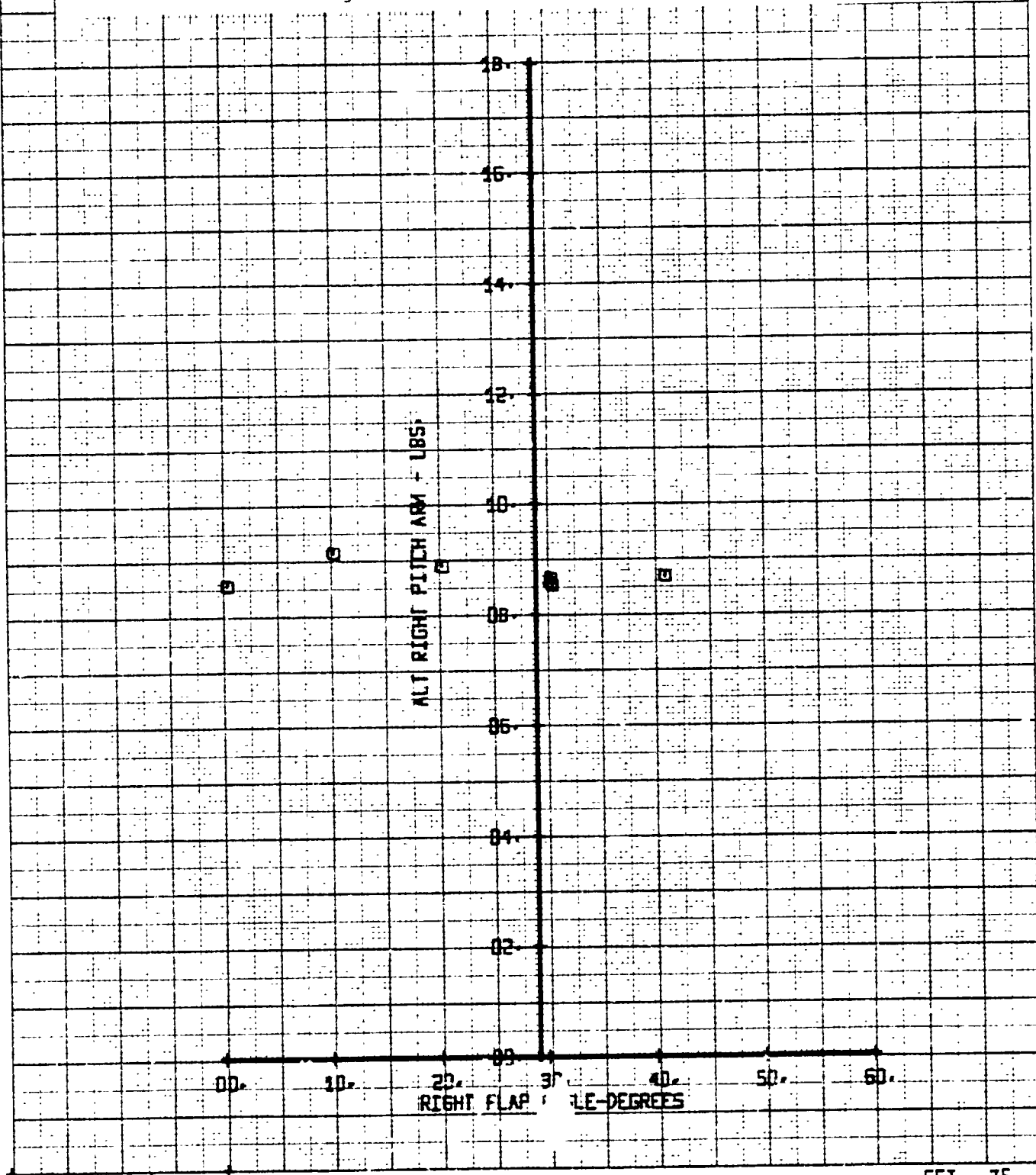
BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-E.S.	ALPHA-EUS
RIGHT ROTOR DATA		0	116	30	180	-6
						FLAP VARY

Figure 11-143. Alt. Right Flap Bending Versus Right Flap Angle
 ~ Degrees. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



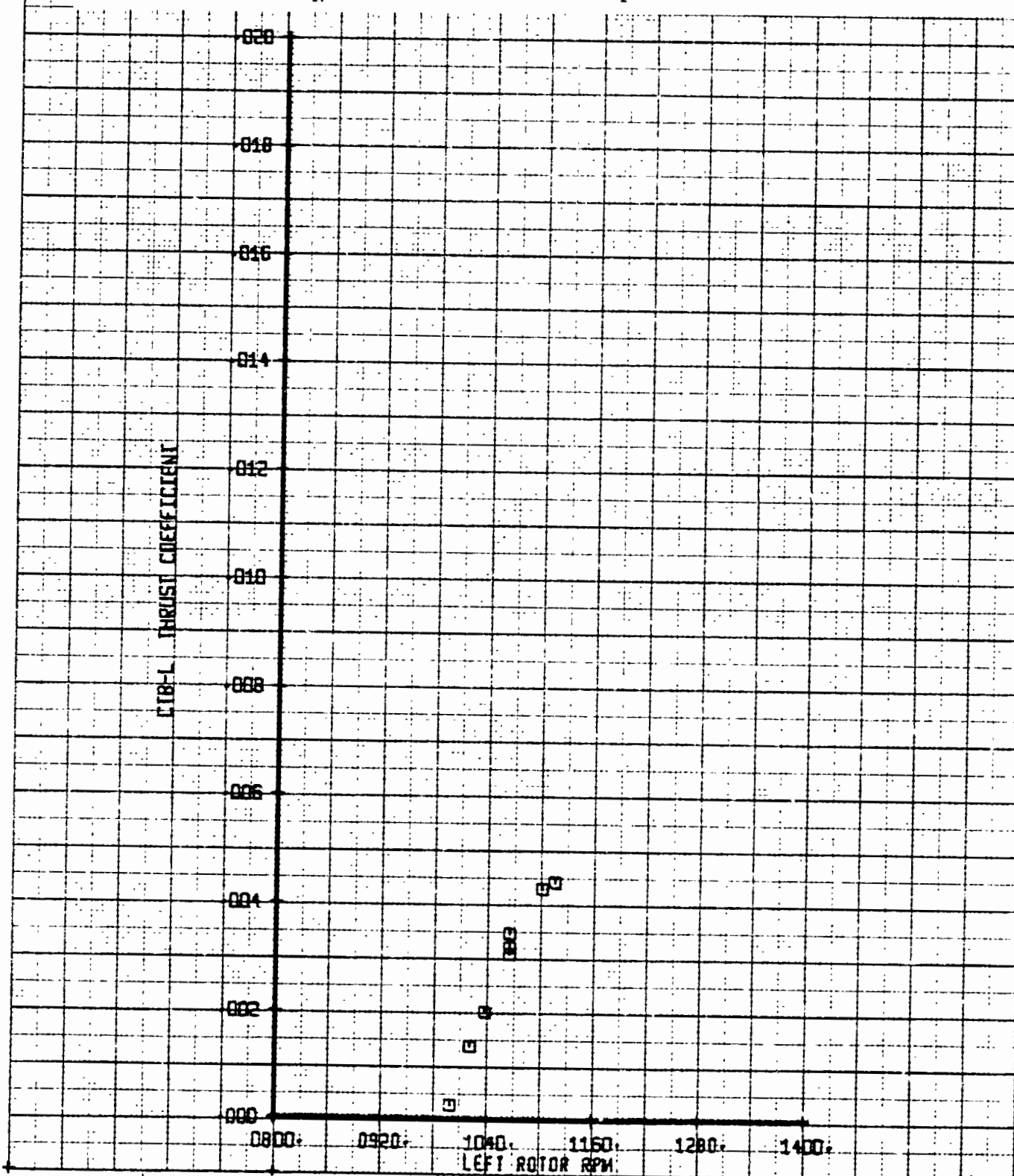
BYWT 182	VRD950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		0	116	30	180	-5
						FLAP VARY

Figure 11-144. Alt. Right Pitch Link Load Versus Right Flap Angle
 ~ Degrees. IN = 30° Full Scale Airspeed 180 Knots.



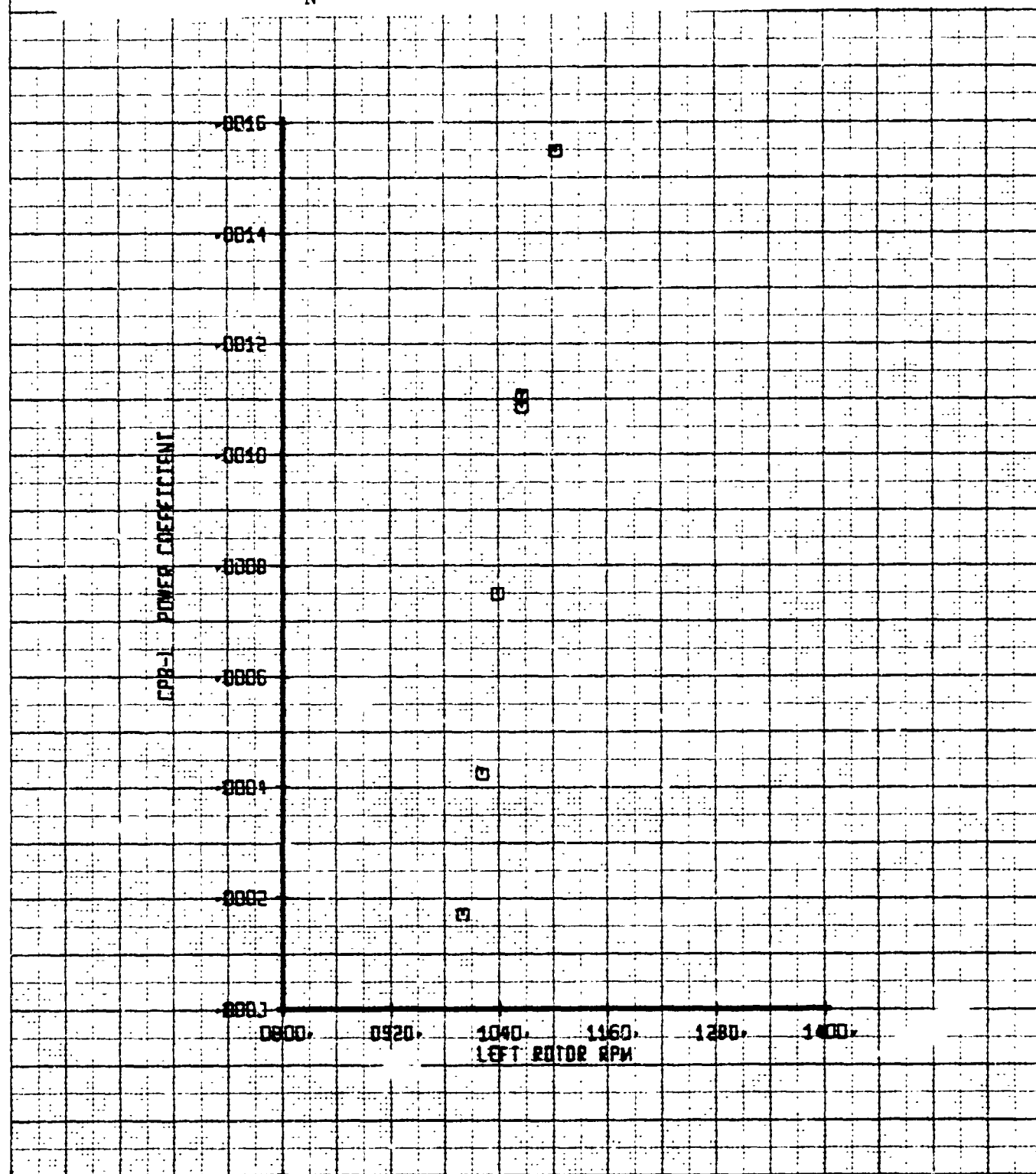
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-DEG
LEFT ROTOR DATA		3	117	30	180	-6
						FLAP 31

Figure 11-145. Left Rotor Thrust Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



BVWT 182	YR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	117	30	180	-6
						FLAP 31

Figure 11-146. Left Rotor Power Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



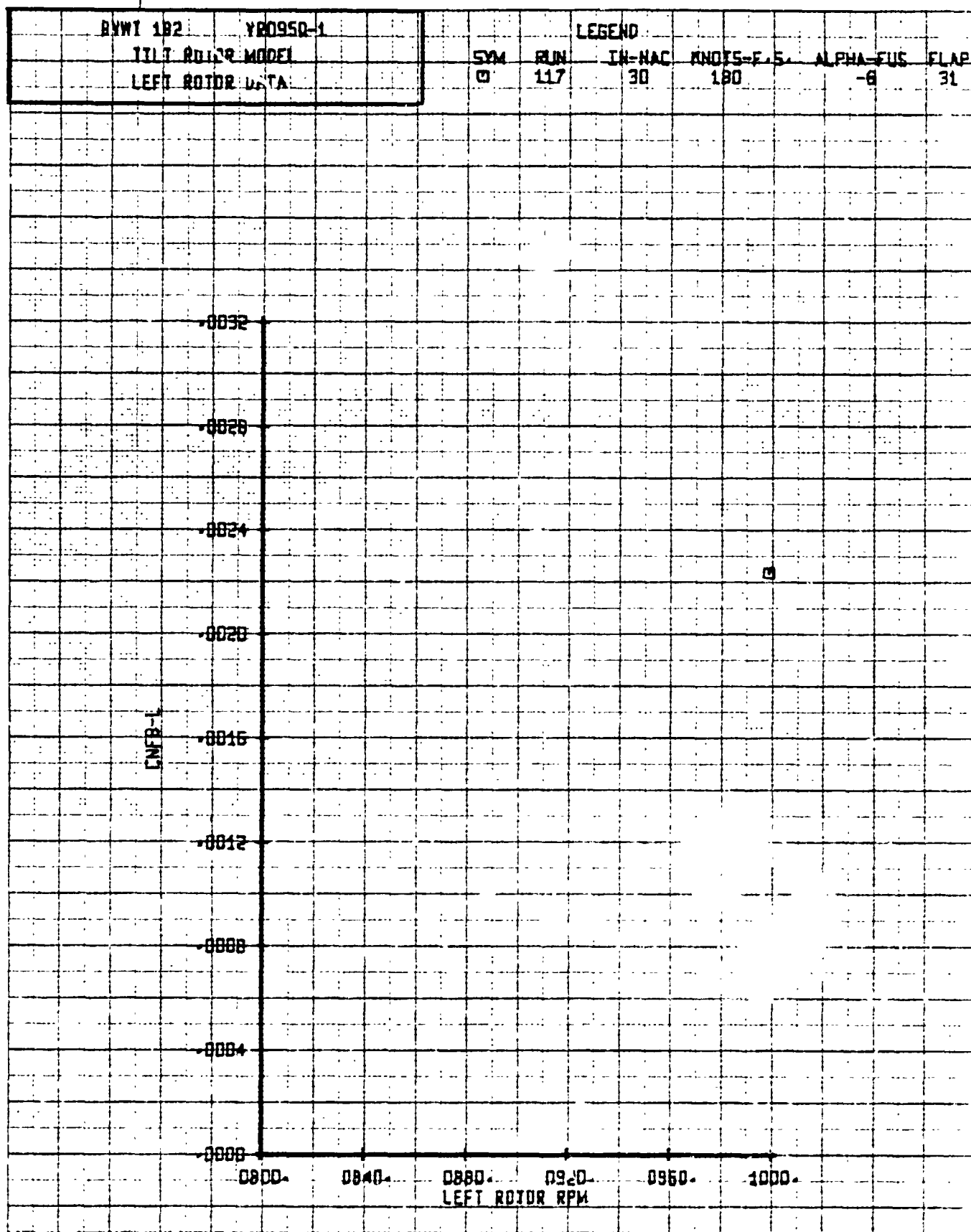
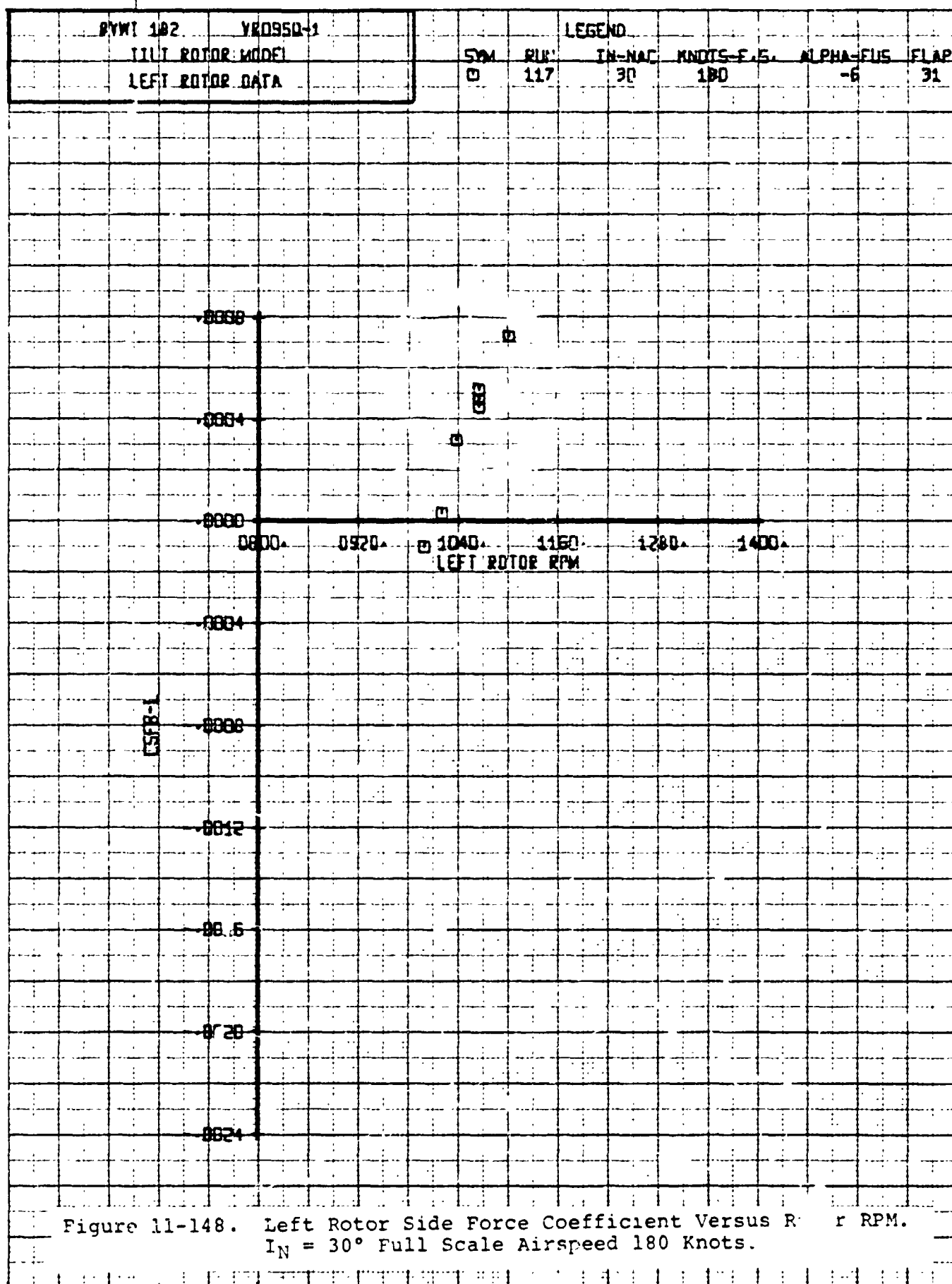
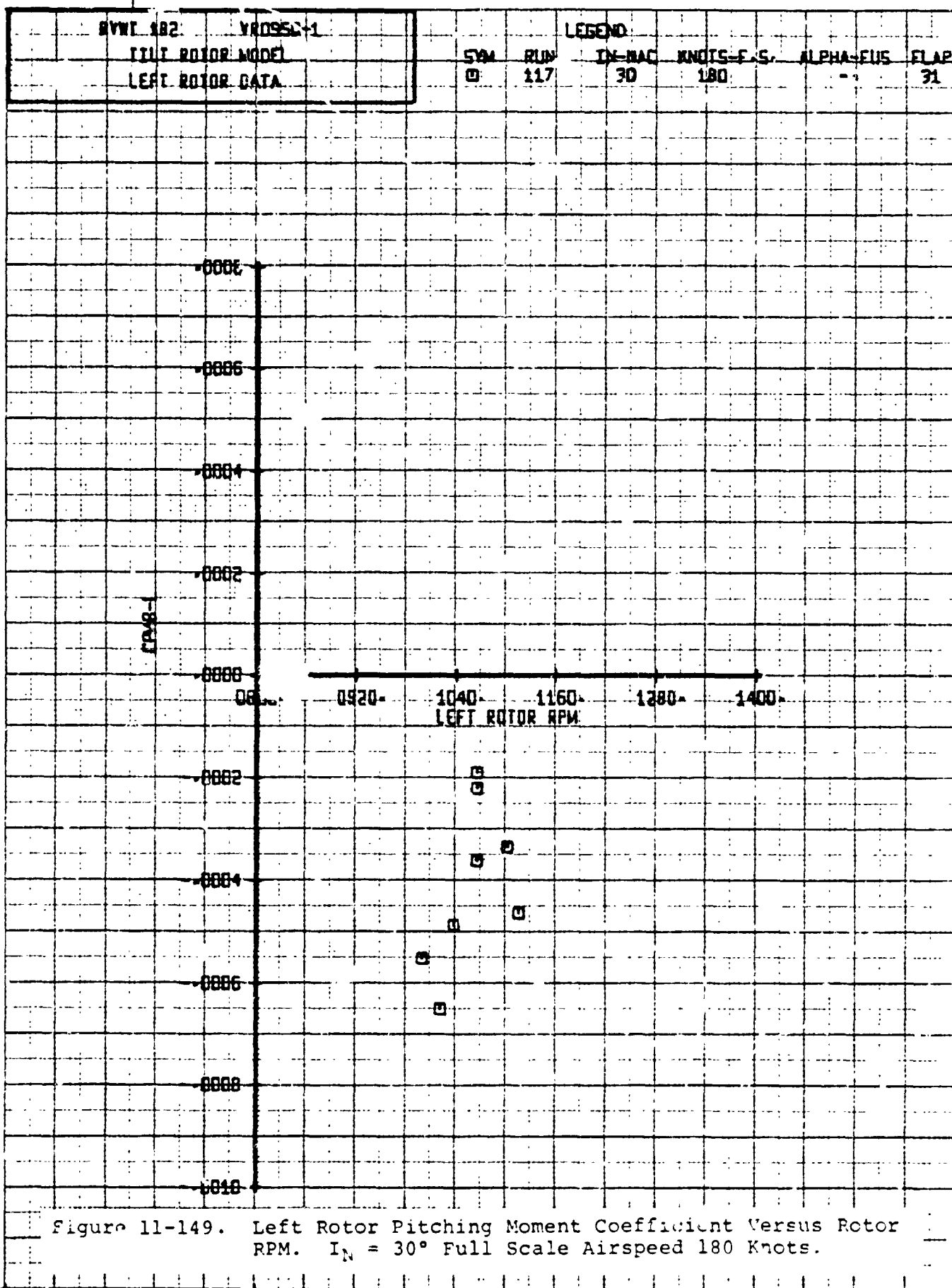
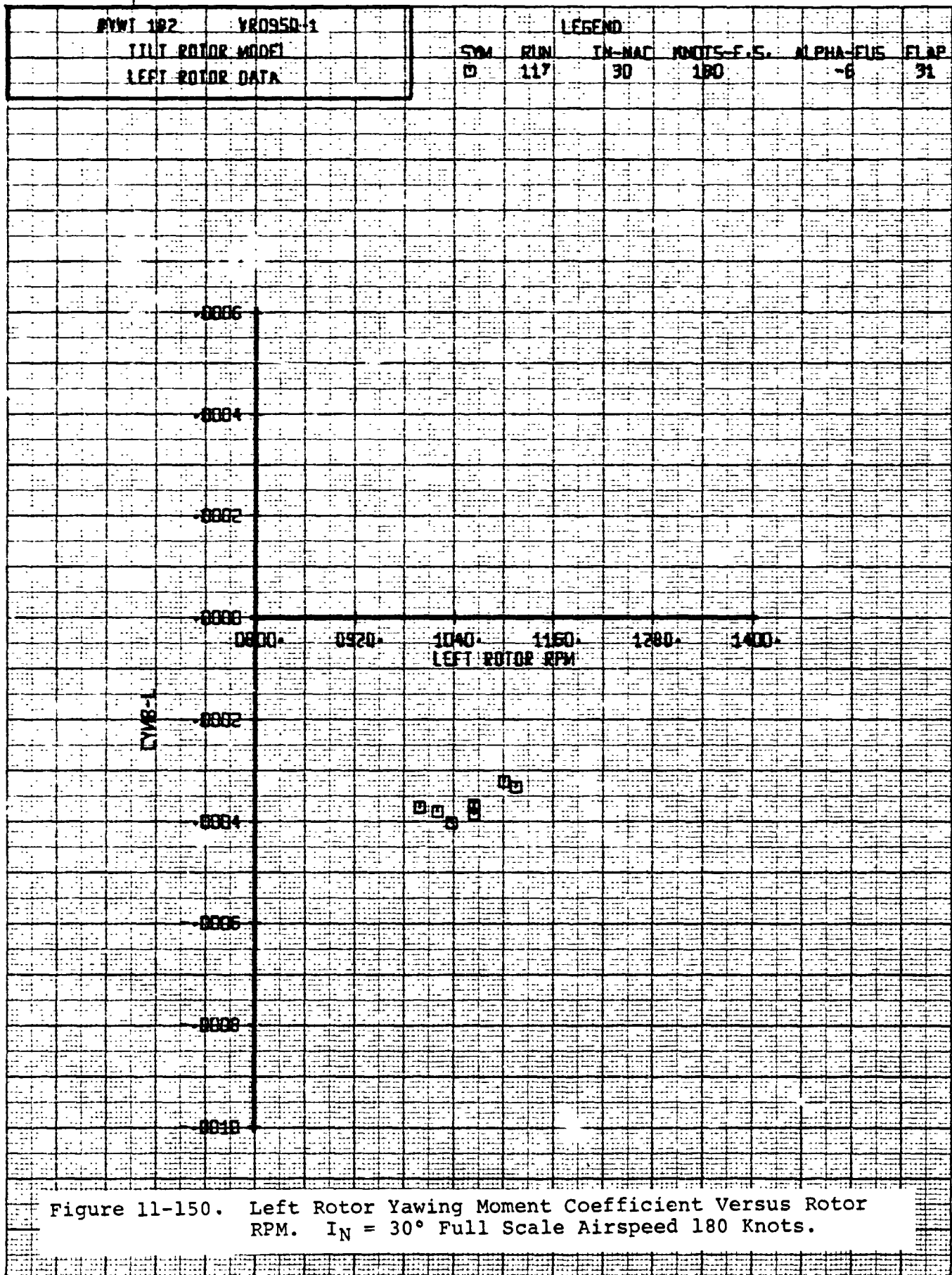


Figure 11-147. Left Rotor Normal Force Coefficient Versus Rotor RPM. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

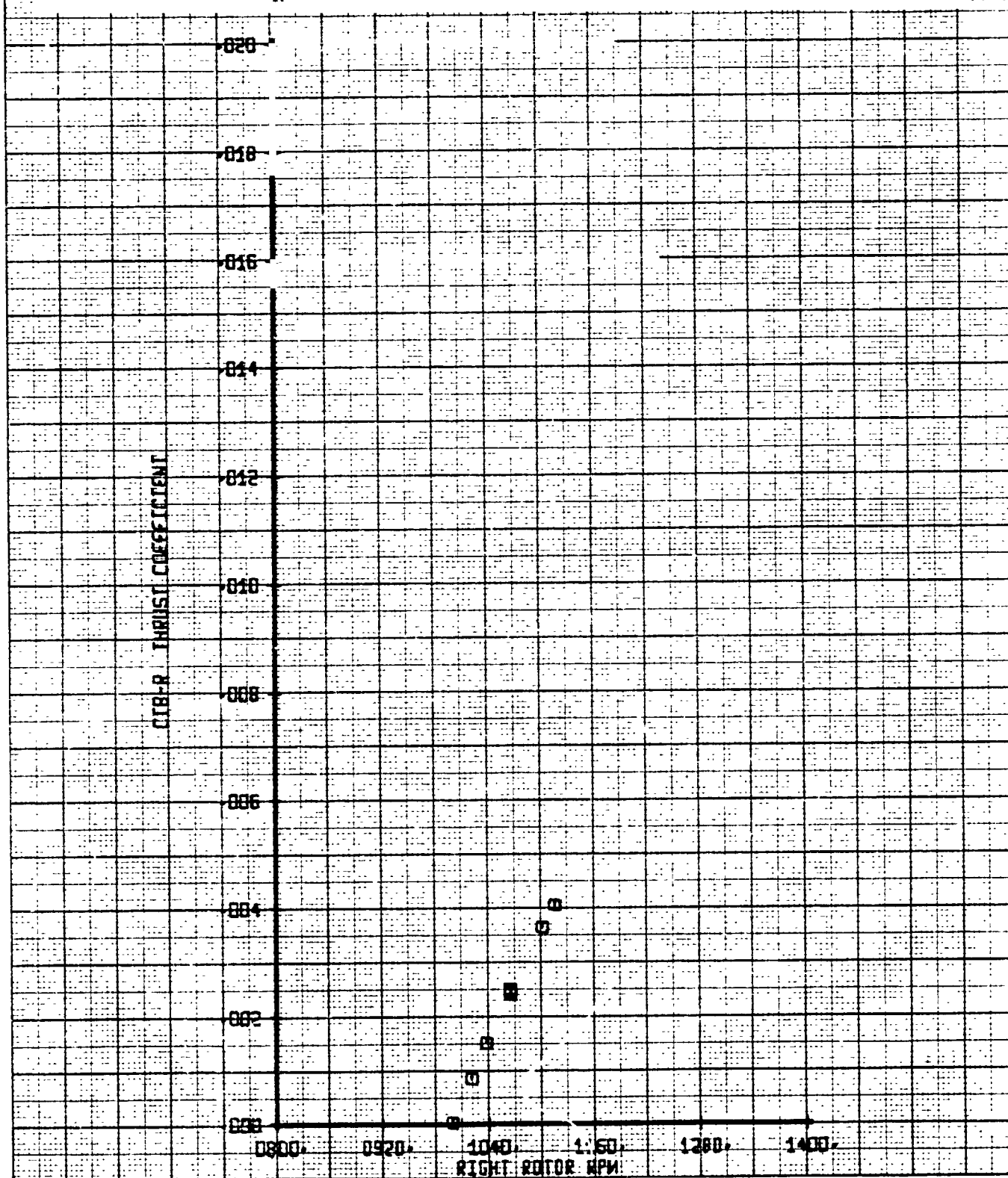






BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODE		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	117	30	180	-6
						FLAP 31

Figure 11-151. Right Rotor Thrust Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



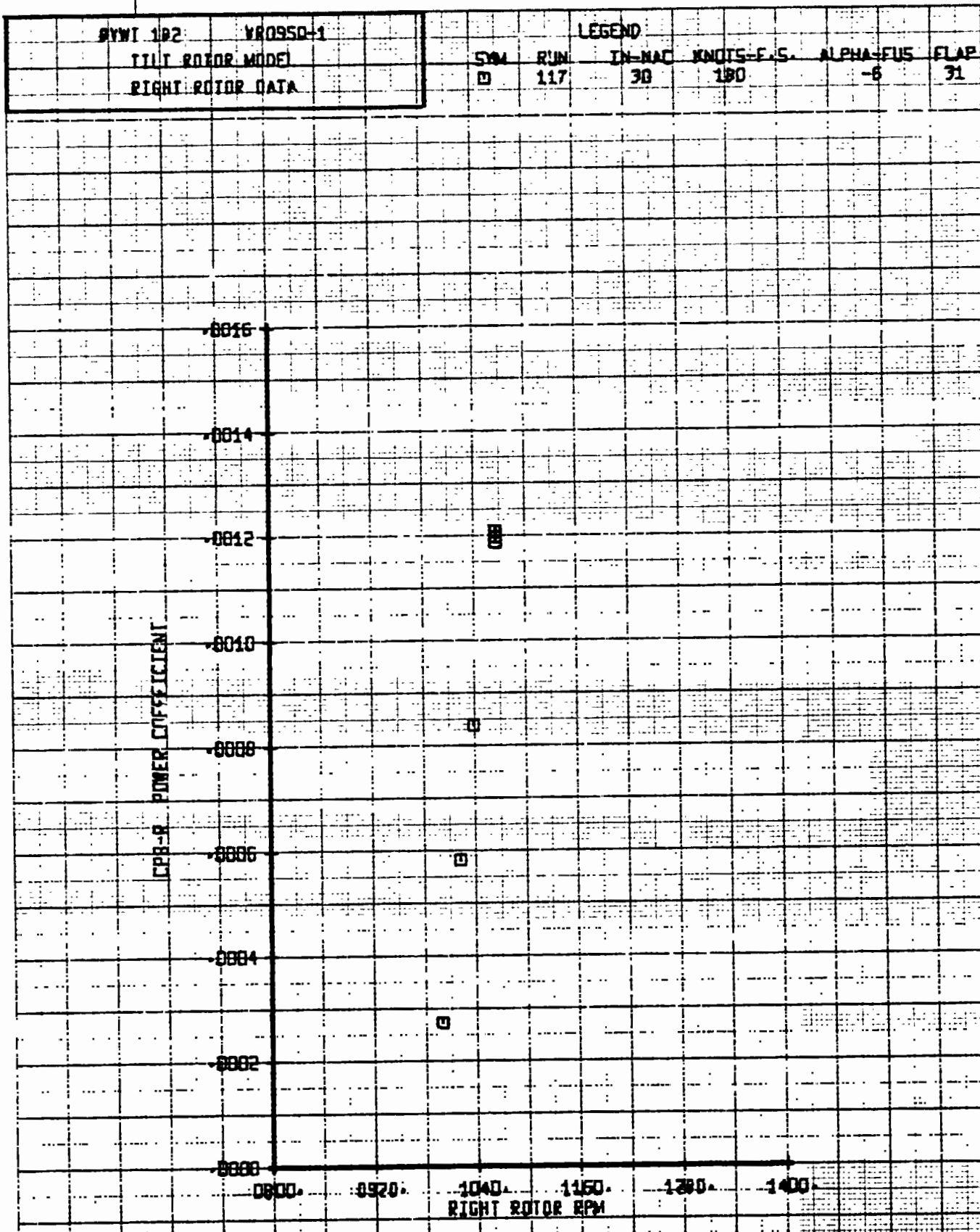


Figure 11-152. Right Rotor Power Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

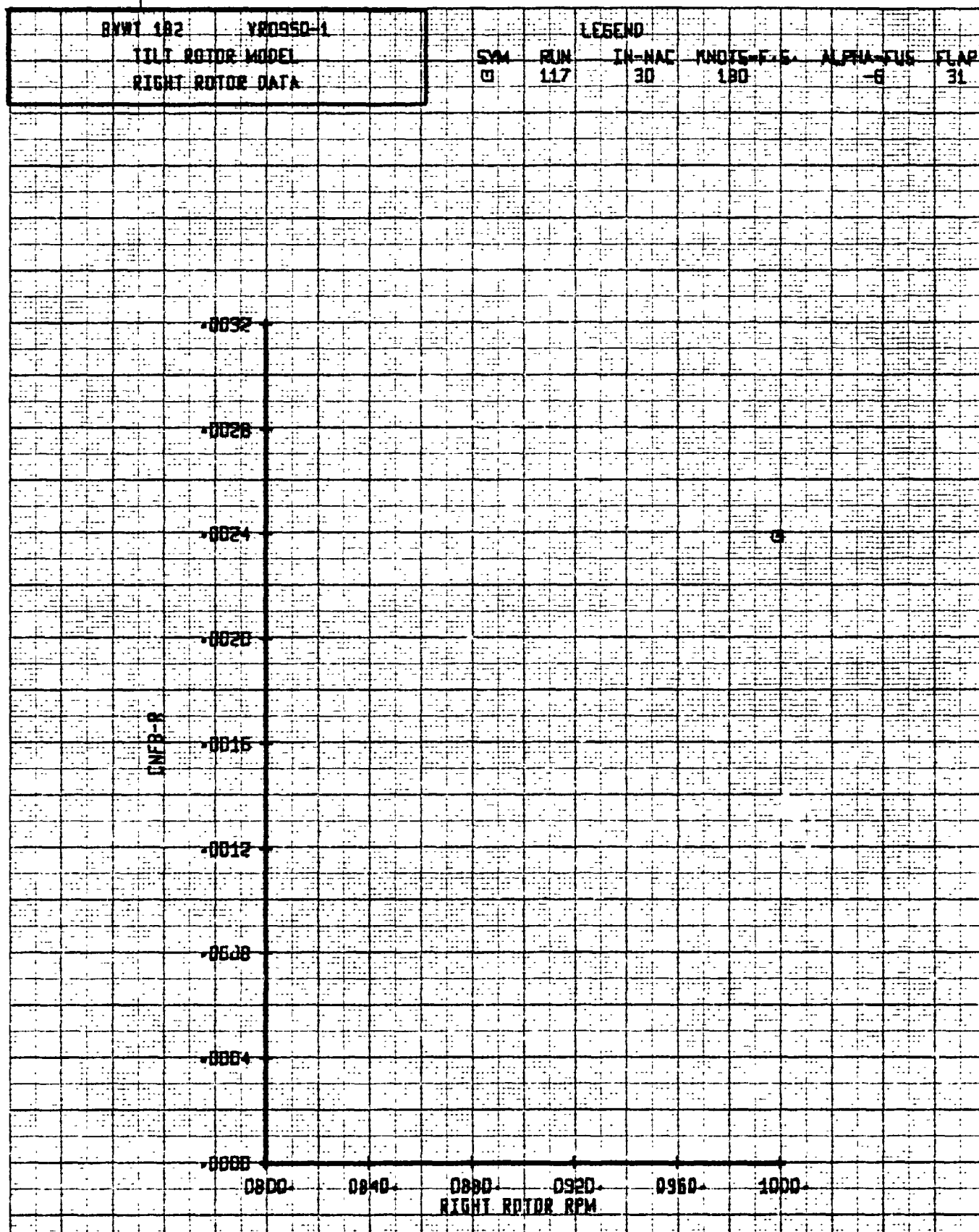
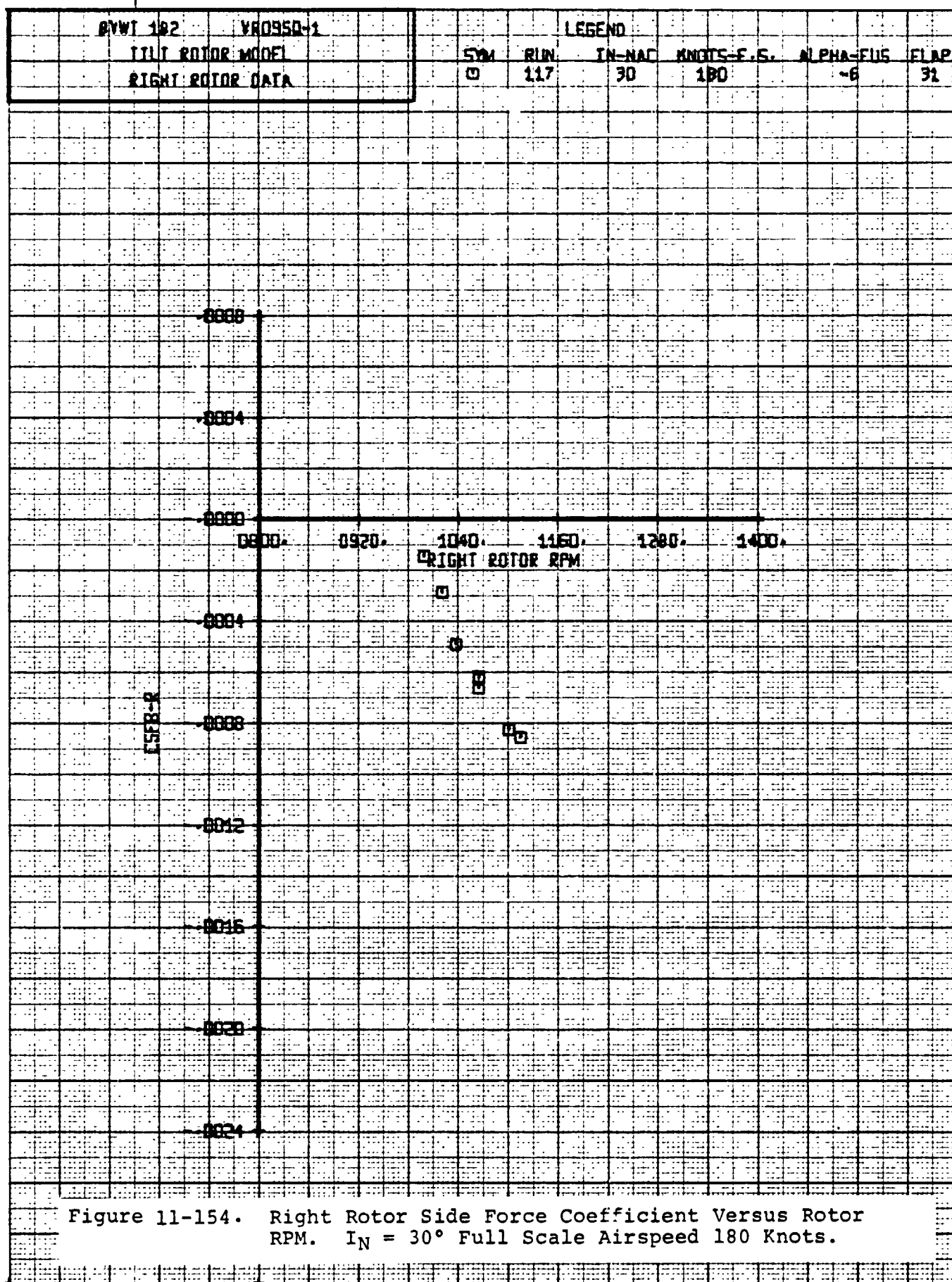
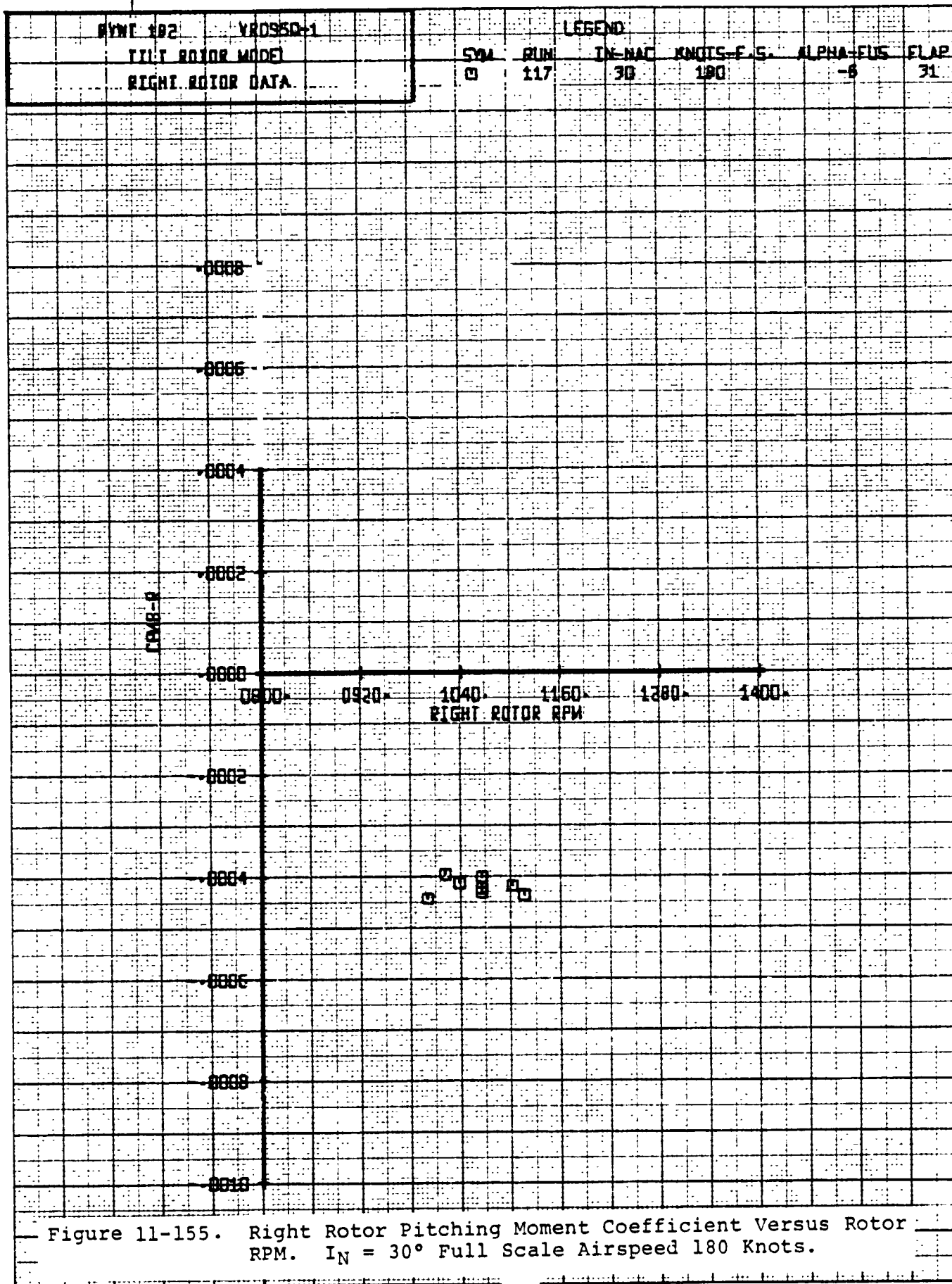
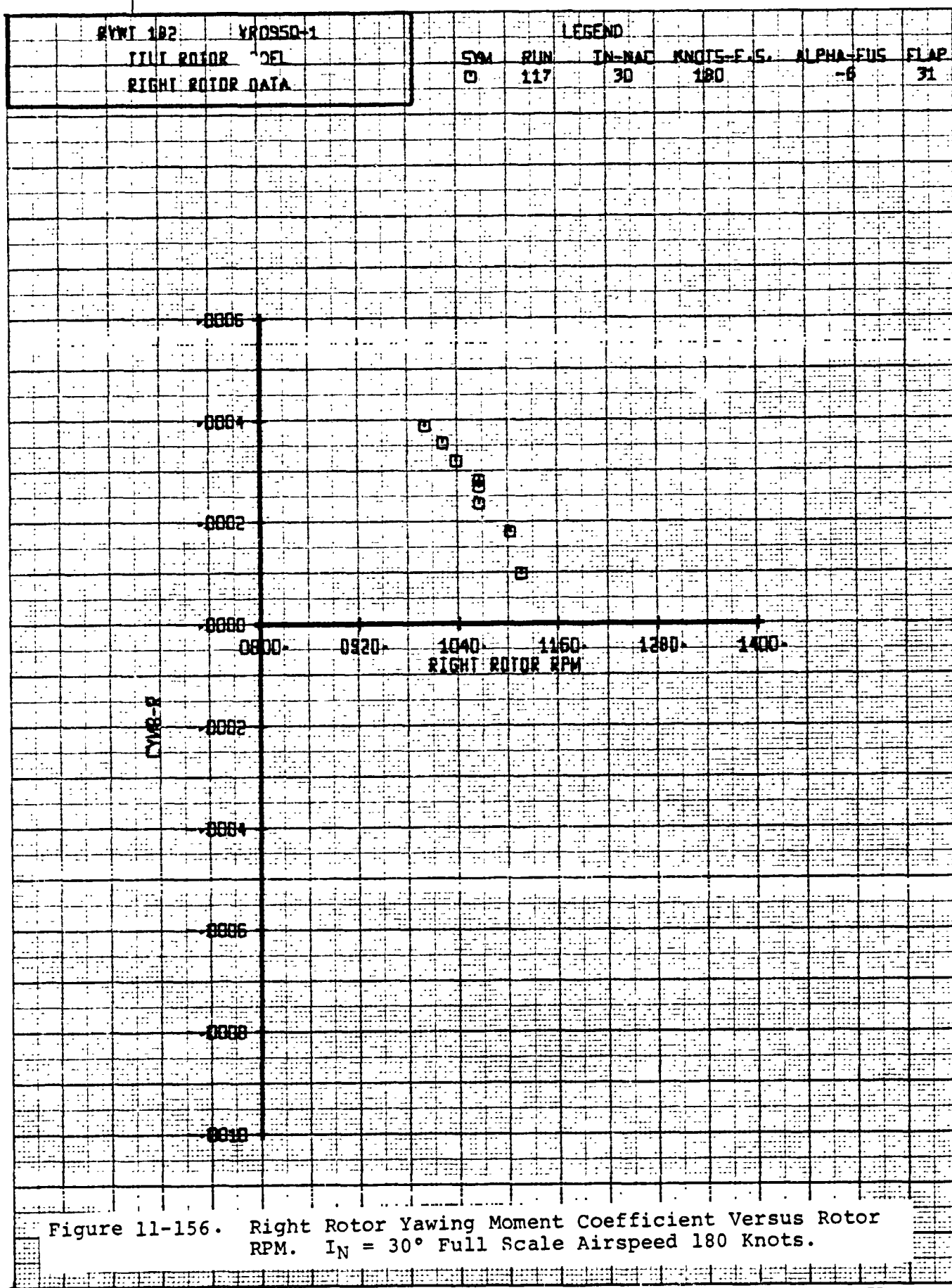


Figure 11-153. Right Rotor Normal Force Coefficient Versus Rotor RPM. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.

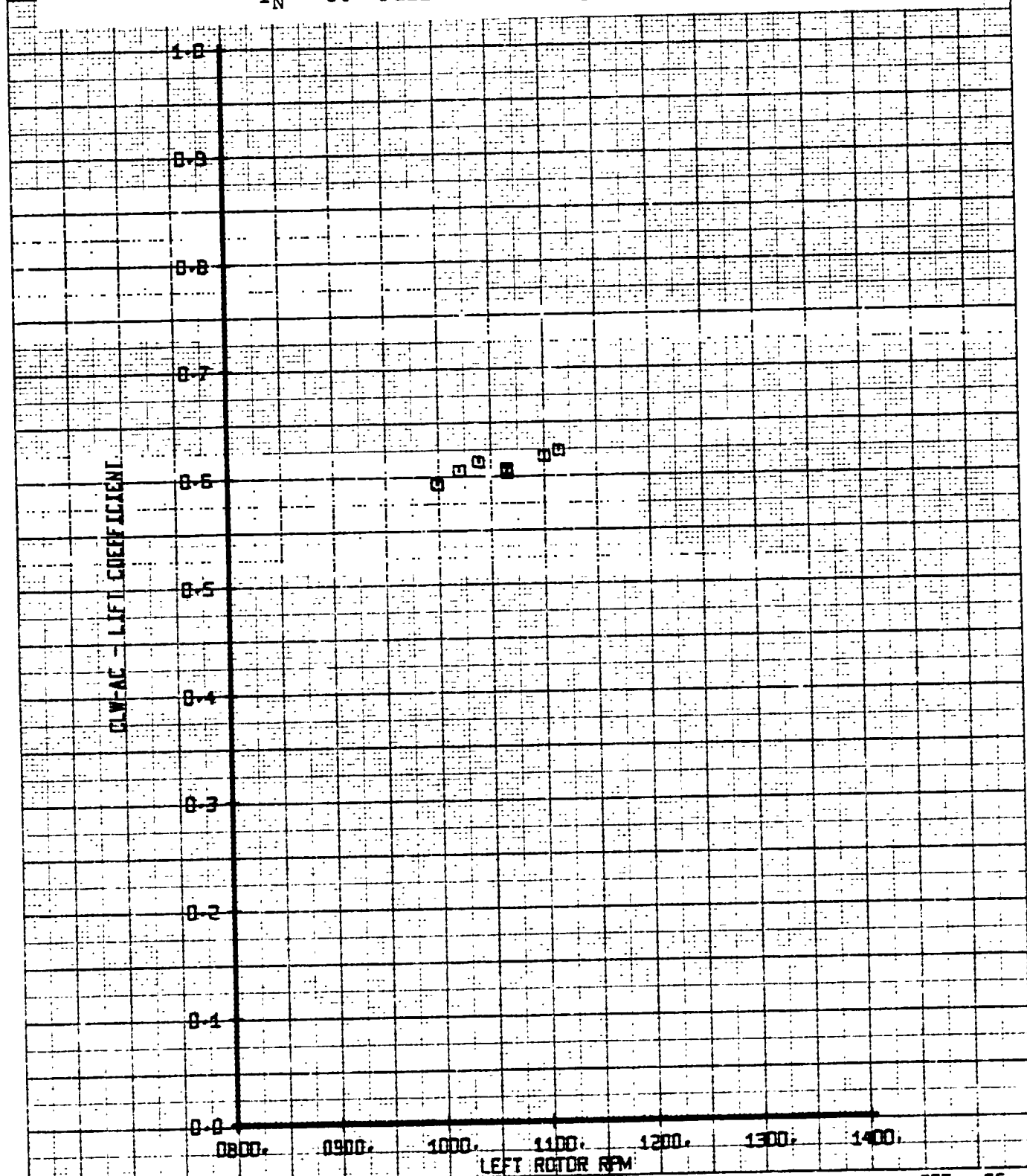


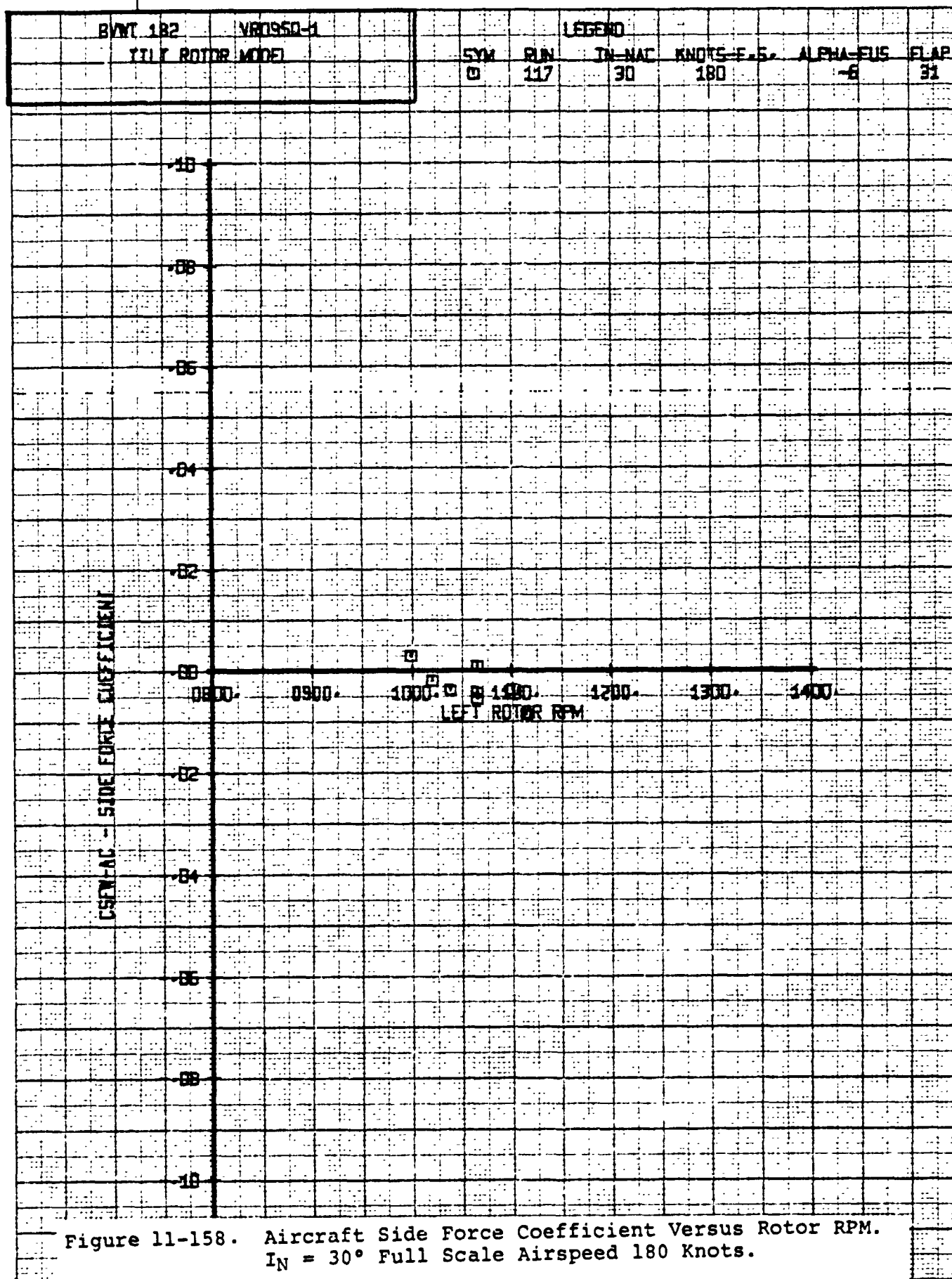


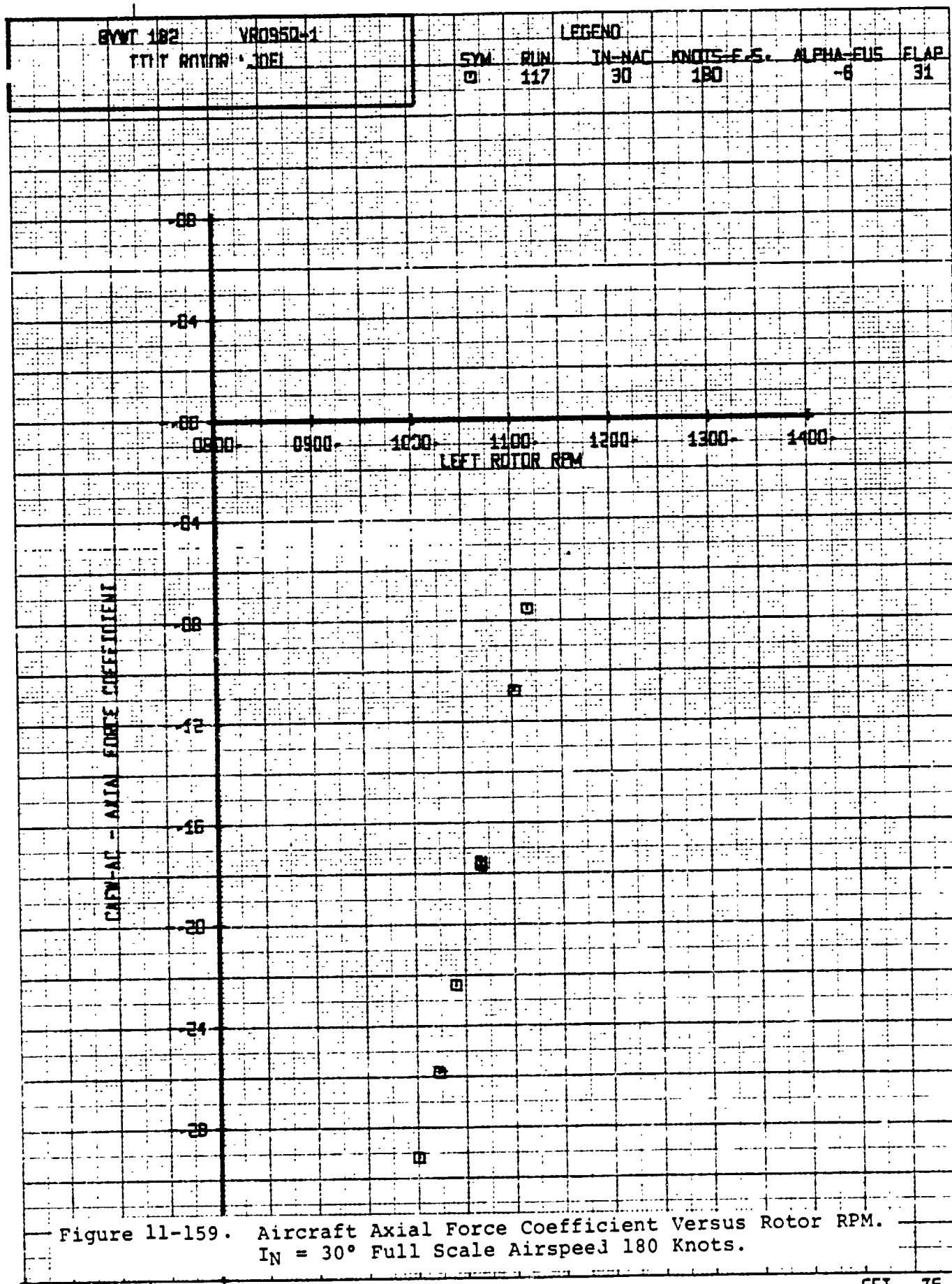


SVWT 182	VRO550-1	LEGEND					
YILT ROTOR MODEL		SYM	RPM	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
		□	117	30	180	-6	31

Figure 11-157. Aircraft Lift Coefficient Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.







BVWT 182	VR0950-1	LEGEND					
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.F.	ALPHA-FUS	FLAP
		0	117	30	180	-6	31

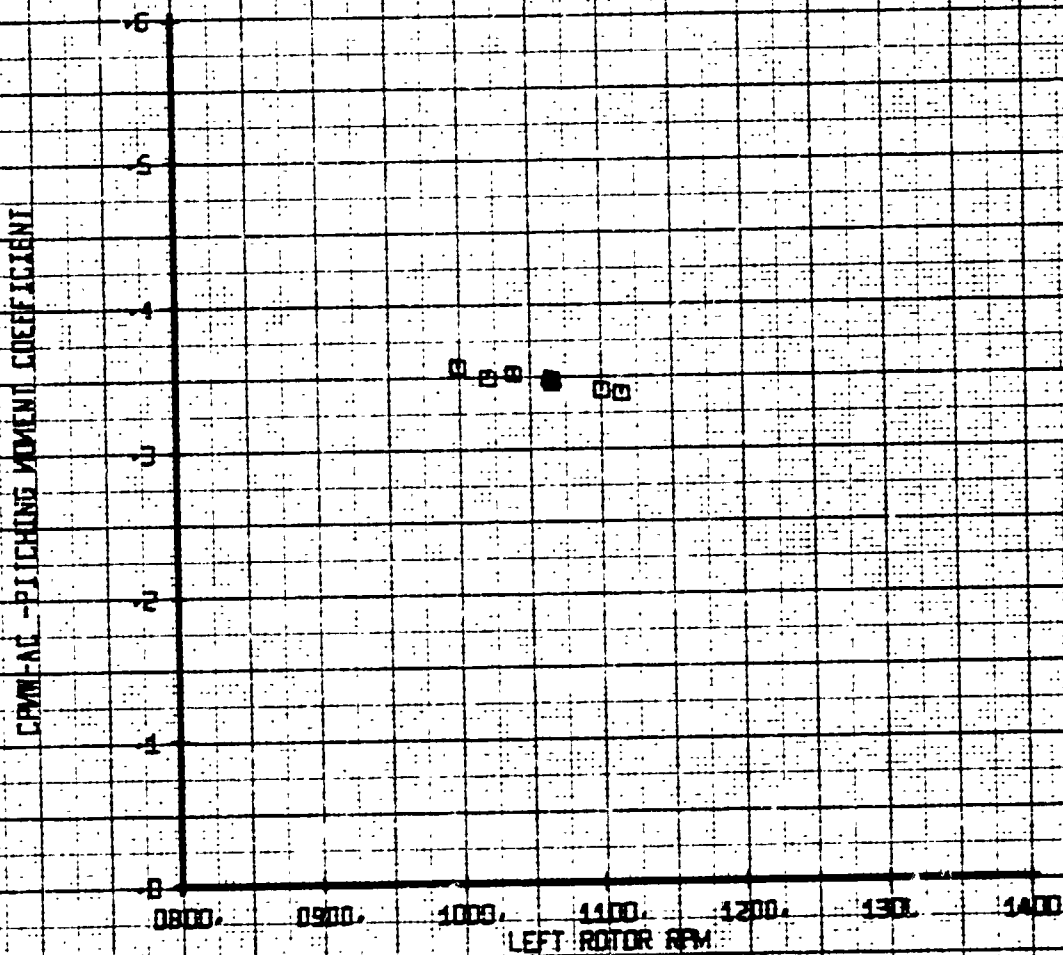
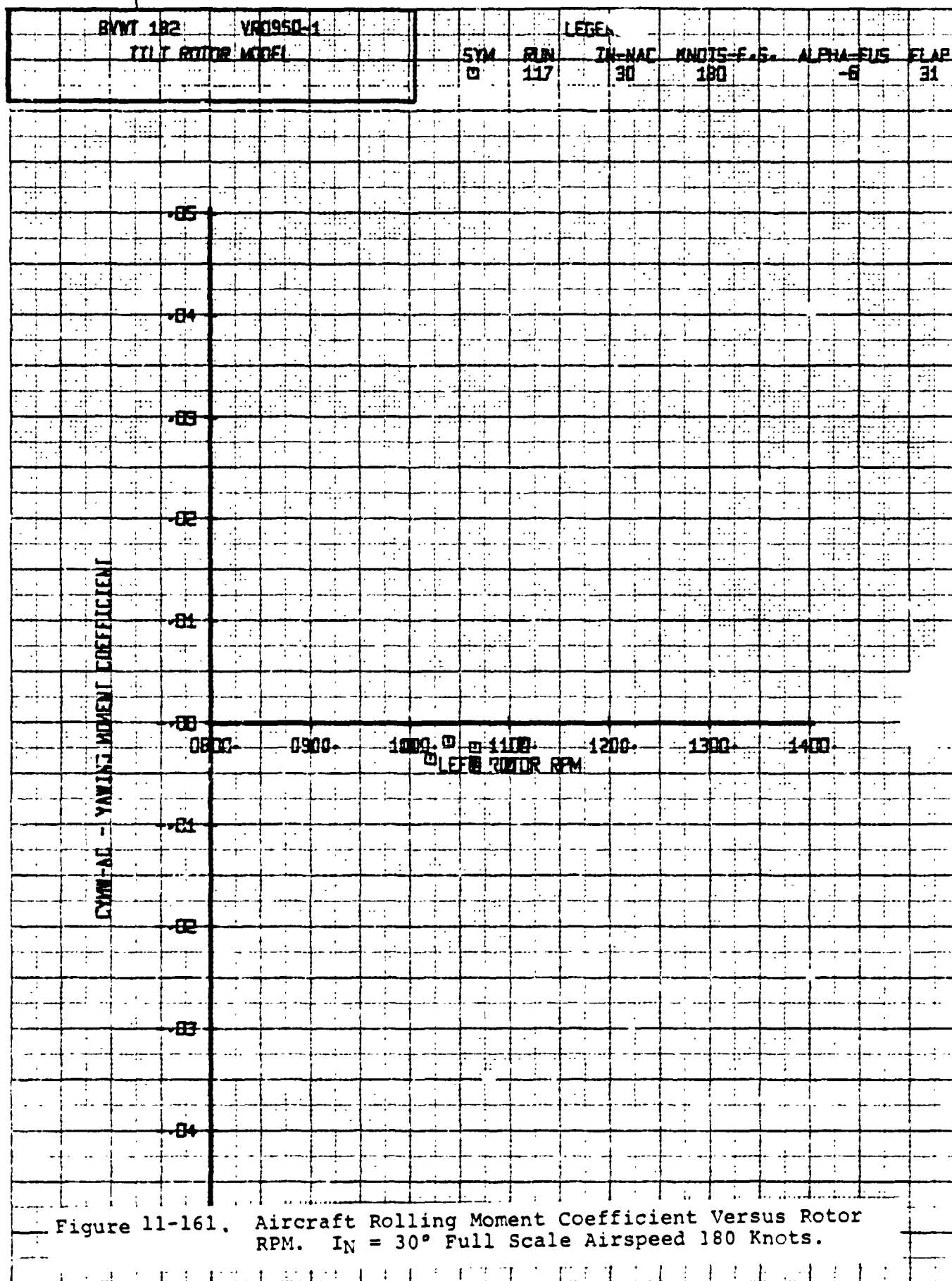
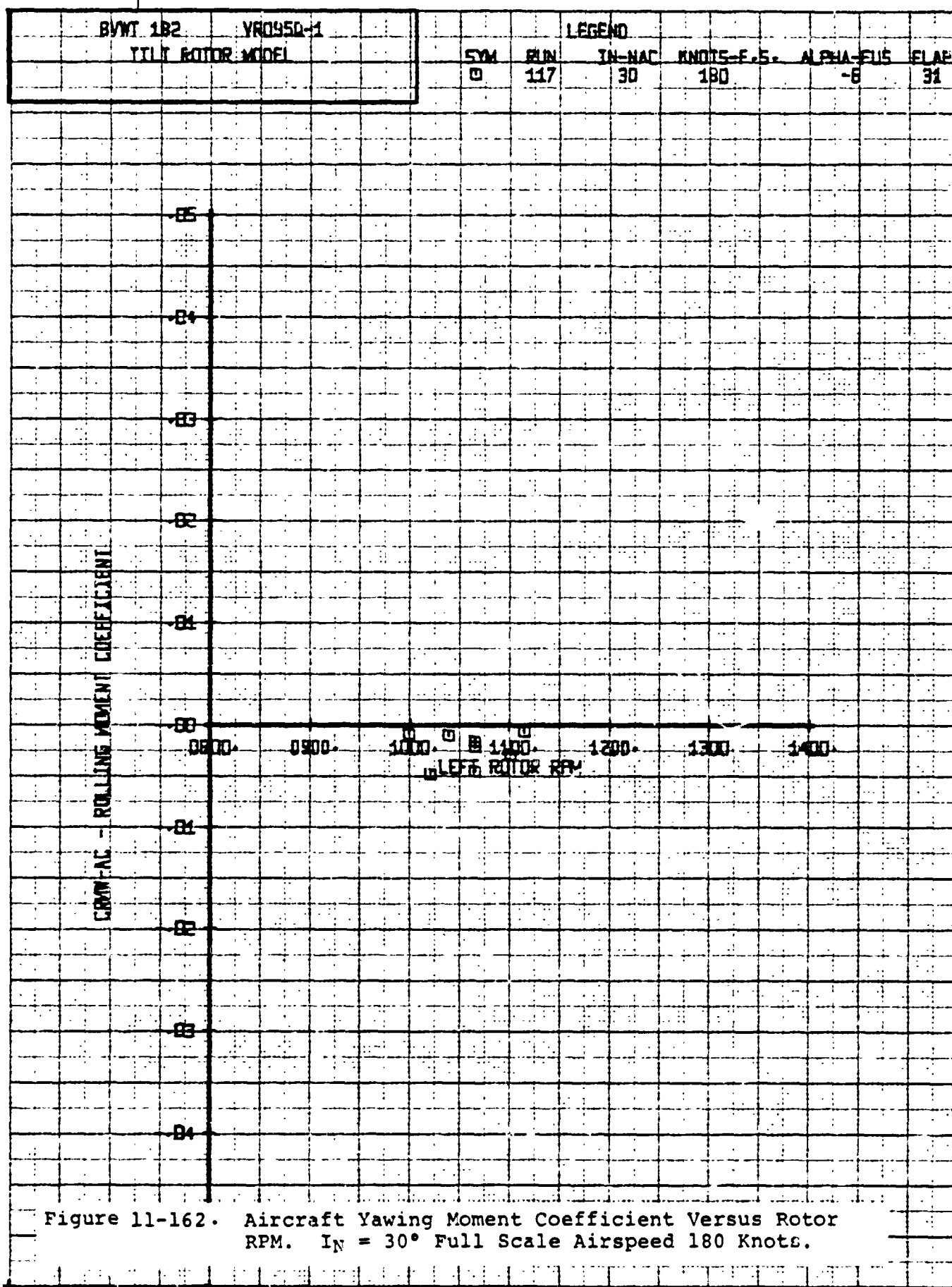
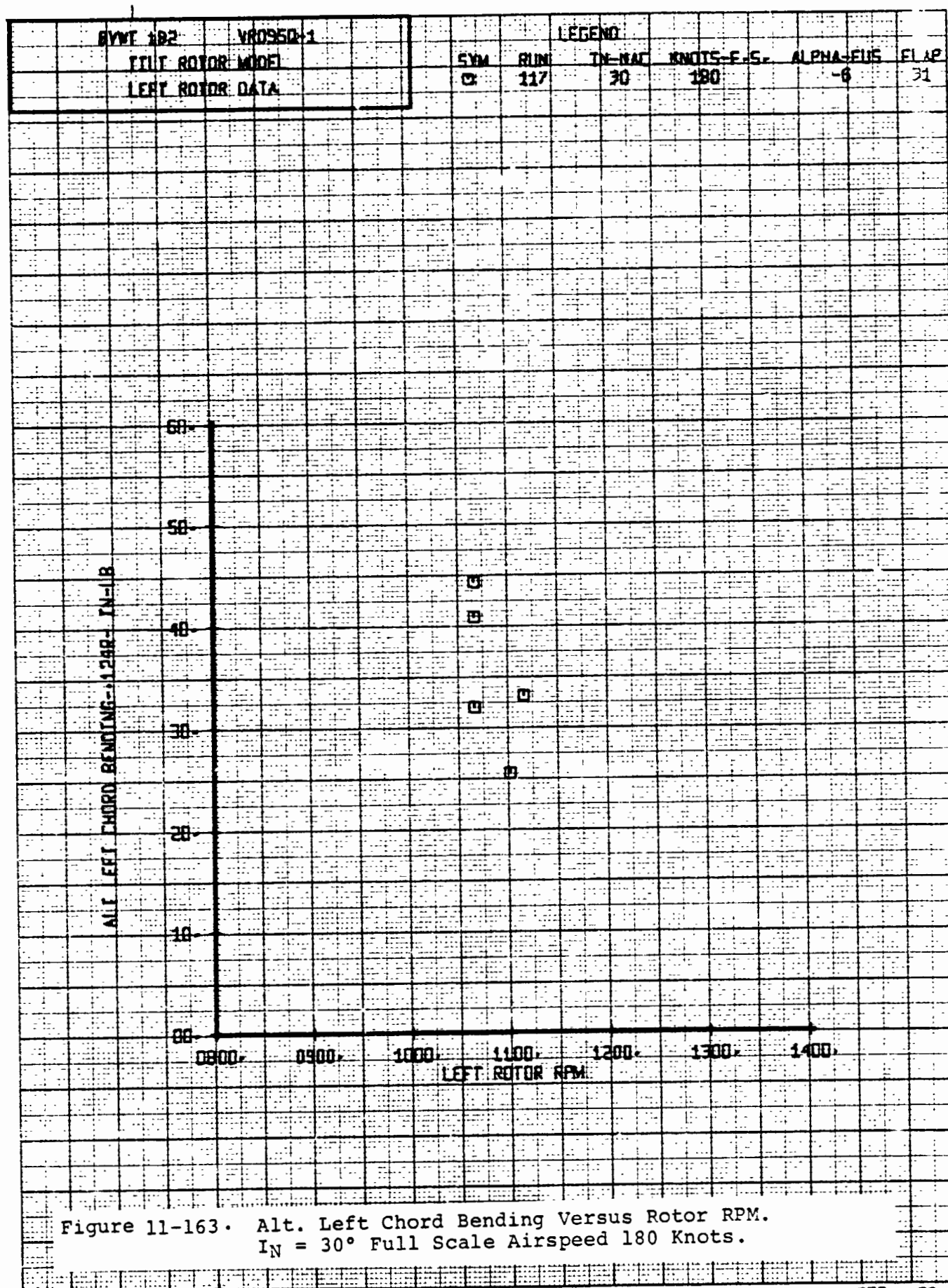
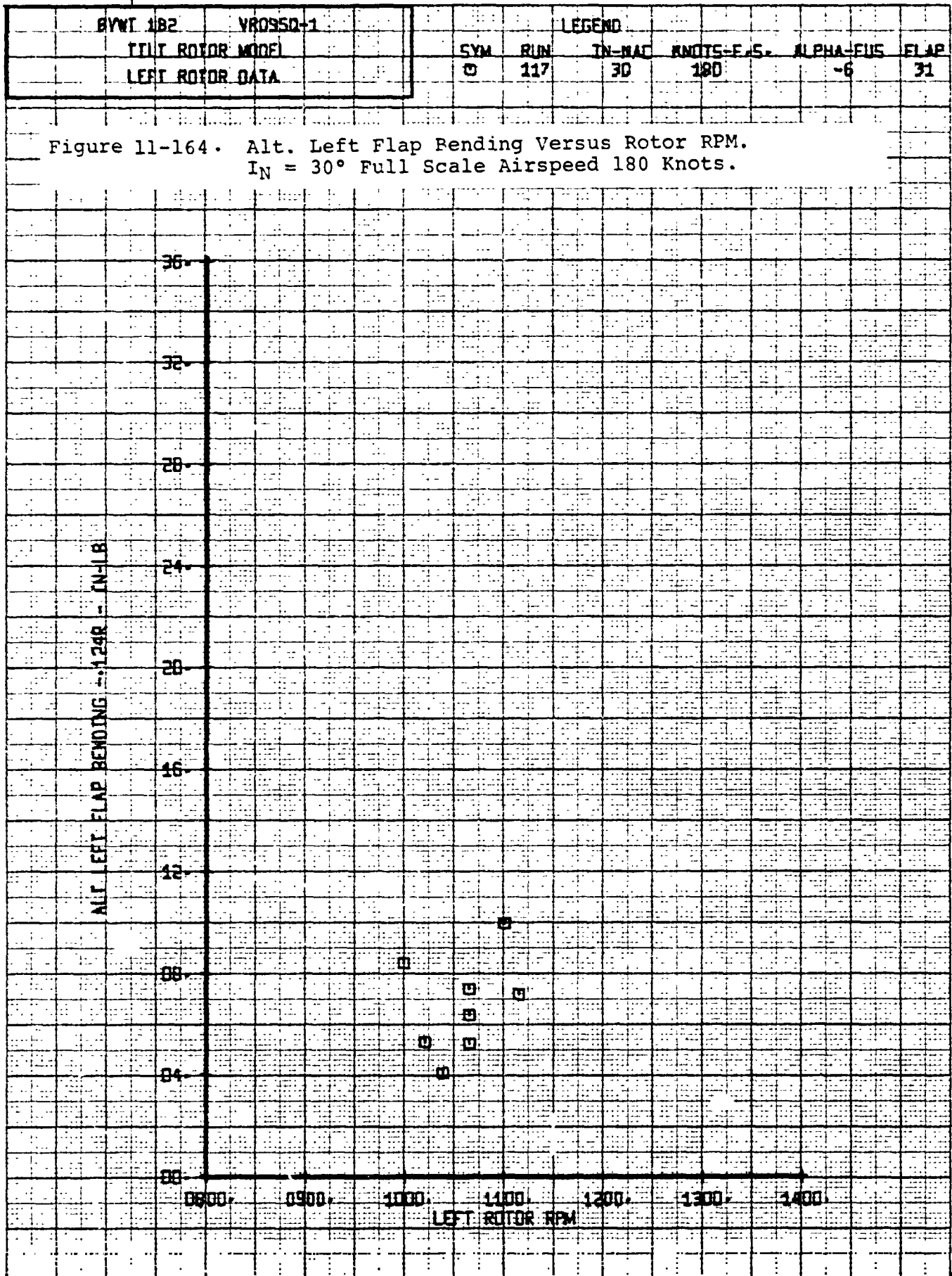


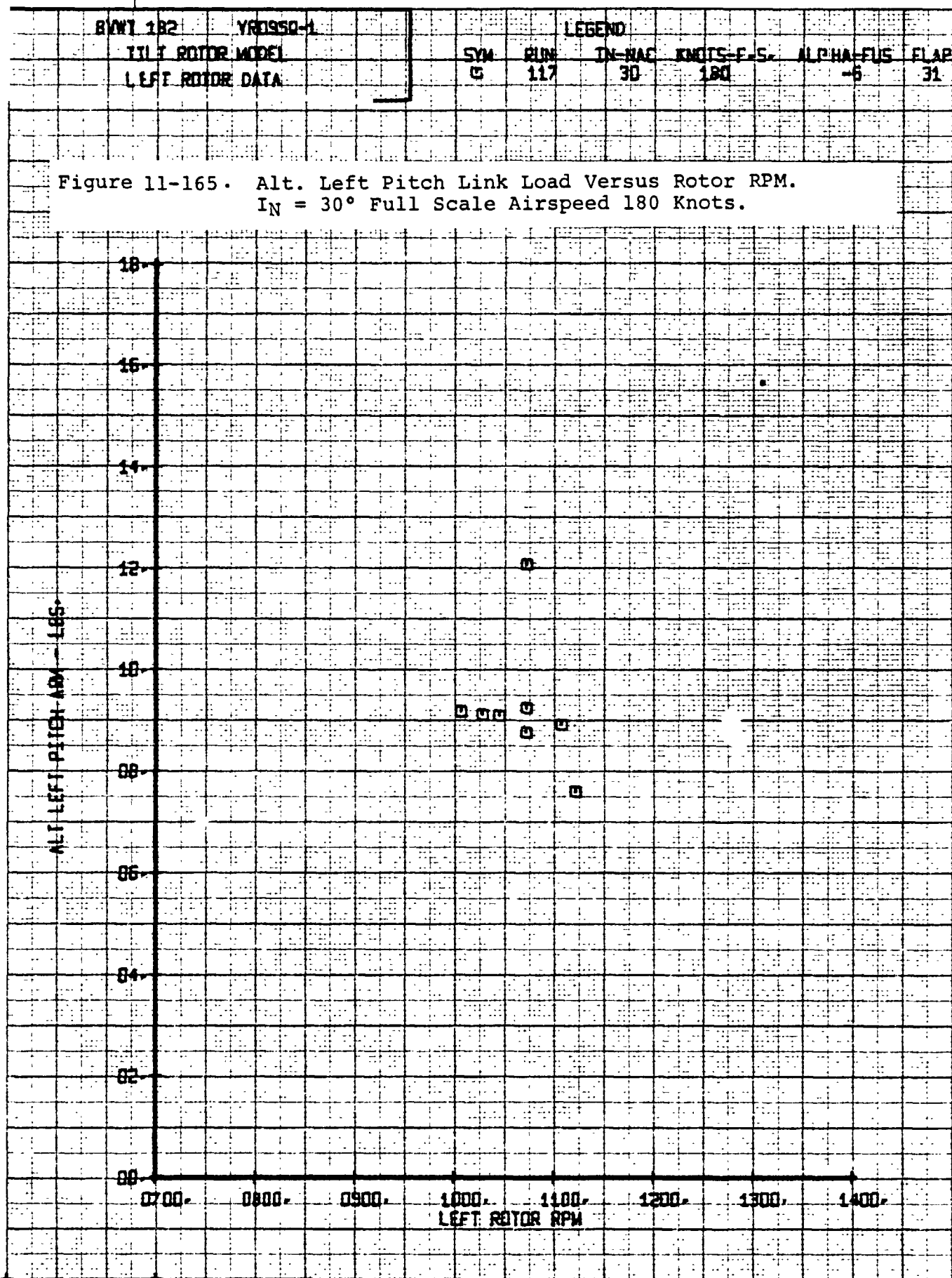
Figure 11-160. Aircraft Pitching Moment Coefficient Versus Rotor RPM. $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.











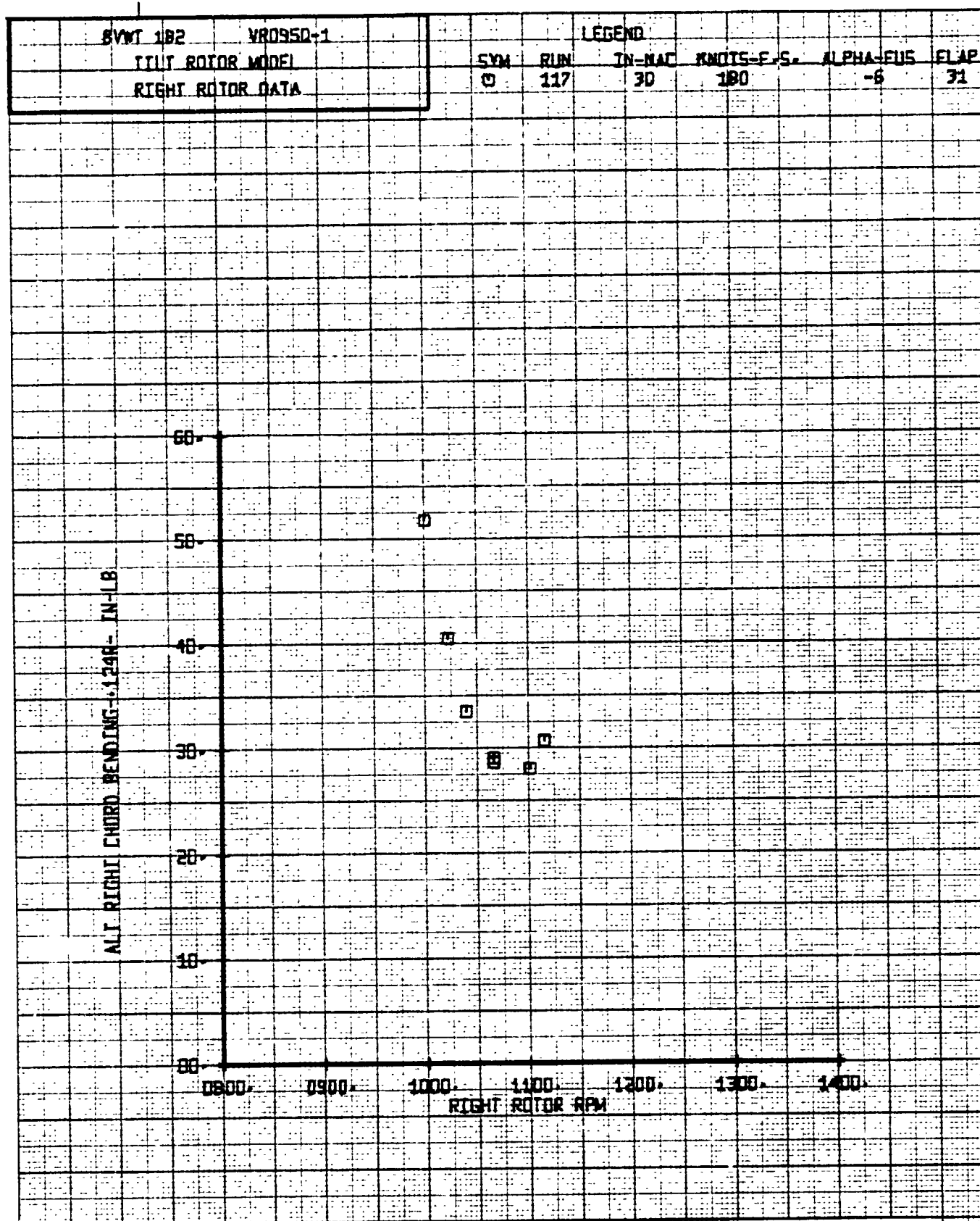
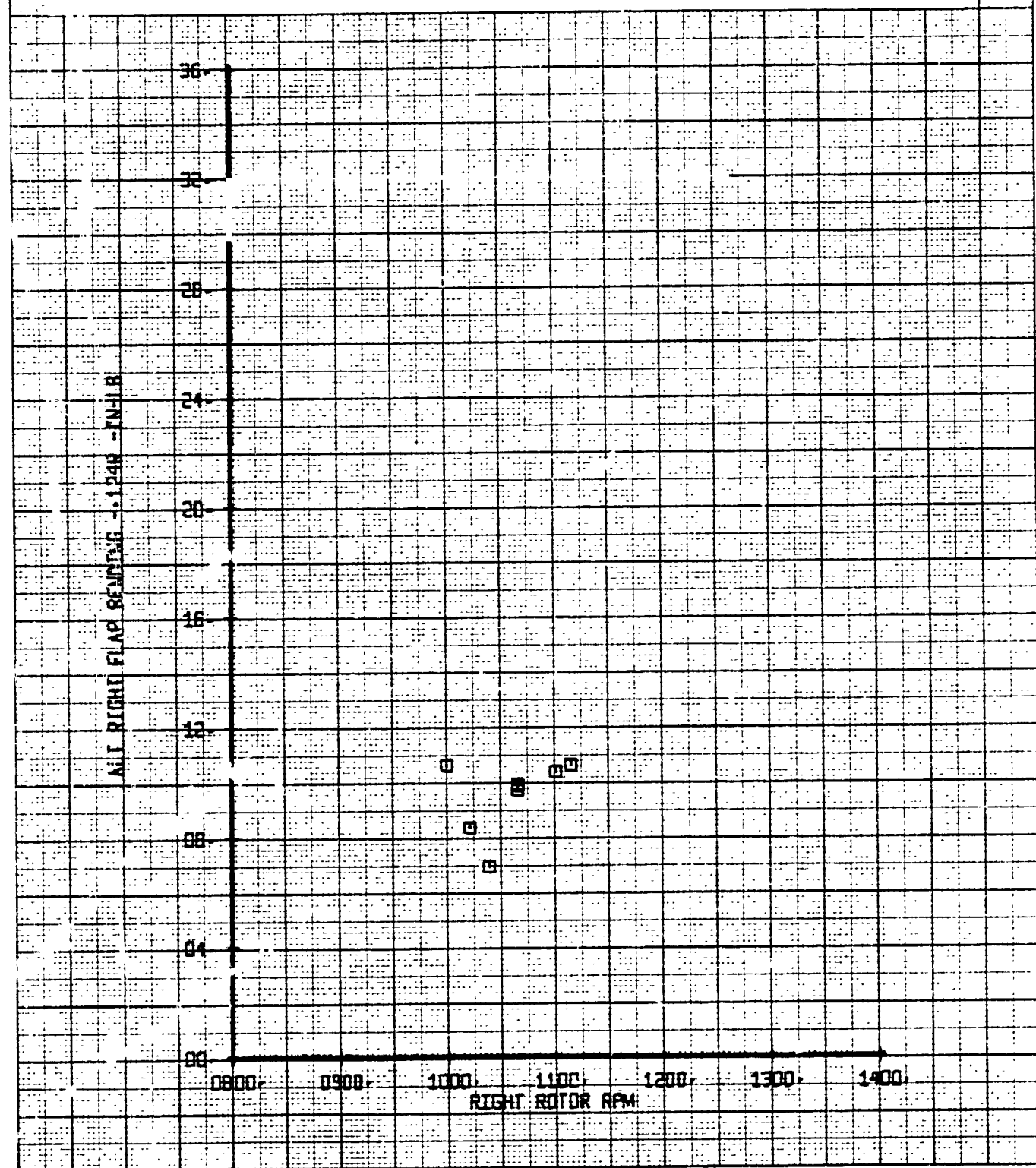


Figure 11-166. Alt. Right Chord Bending Versus Rotor RPM.
 IN = 30° Full Scale Airspeed 180 Knots.

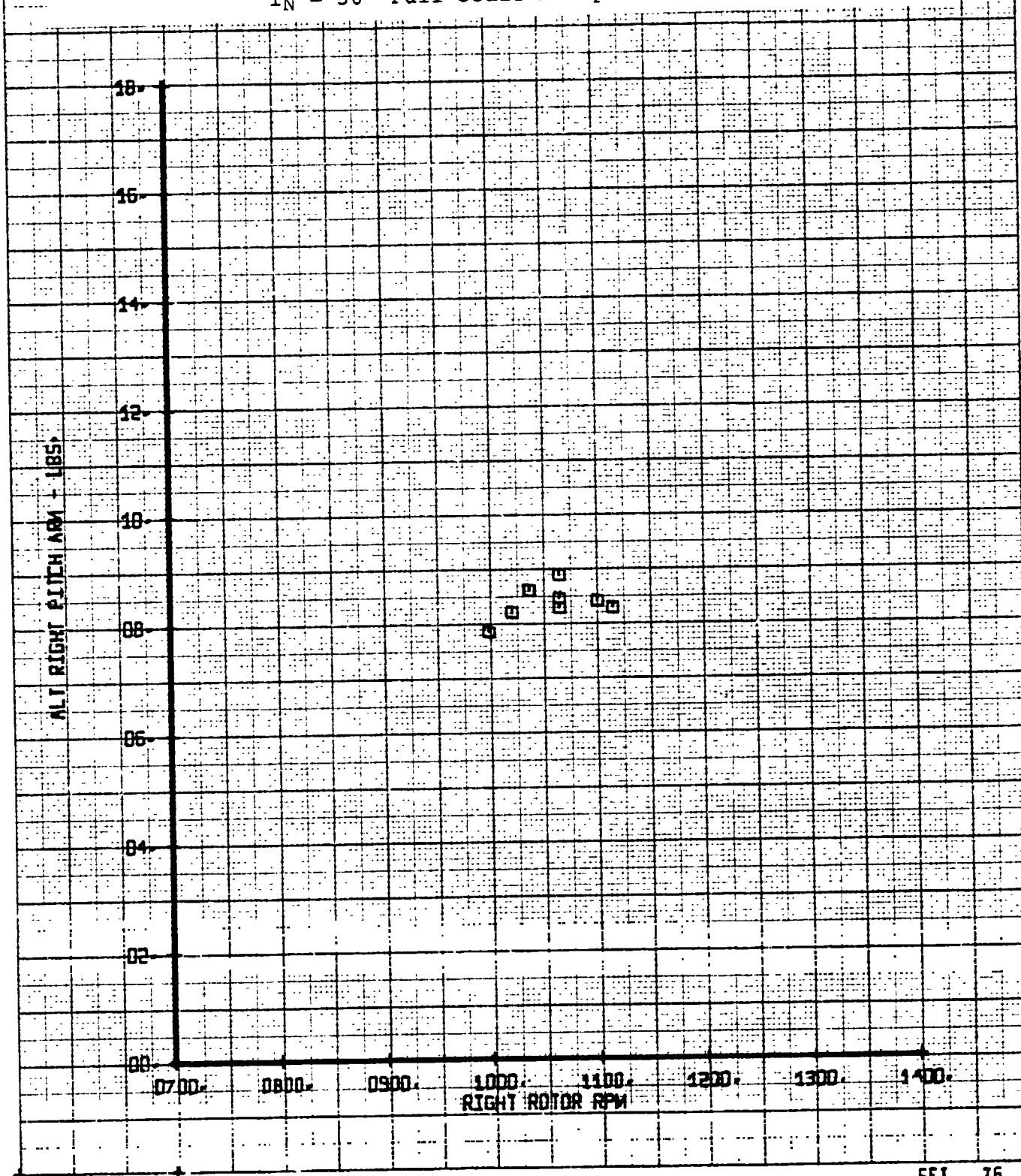
BVWT 182		VRD950-1		LEGEND			
TILT ROTOR MODEL		SYM		RUN	IN-MAC	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		C		117	30	180	-6
							FLAP 31

Figure 11-167. Alt. Right Flap Bending Versus Rotor RPM.
 $I_N = 30^\circ$ Full Scale Airspeed 180 Knots.



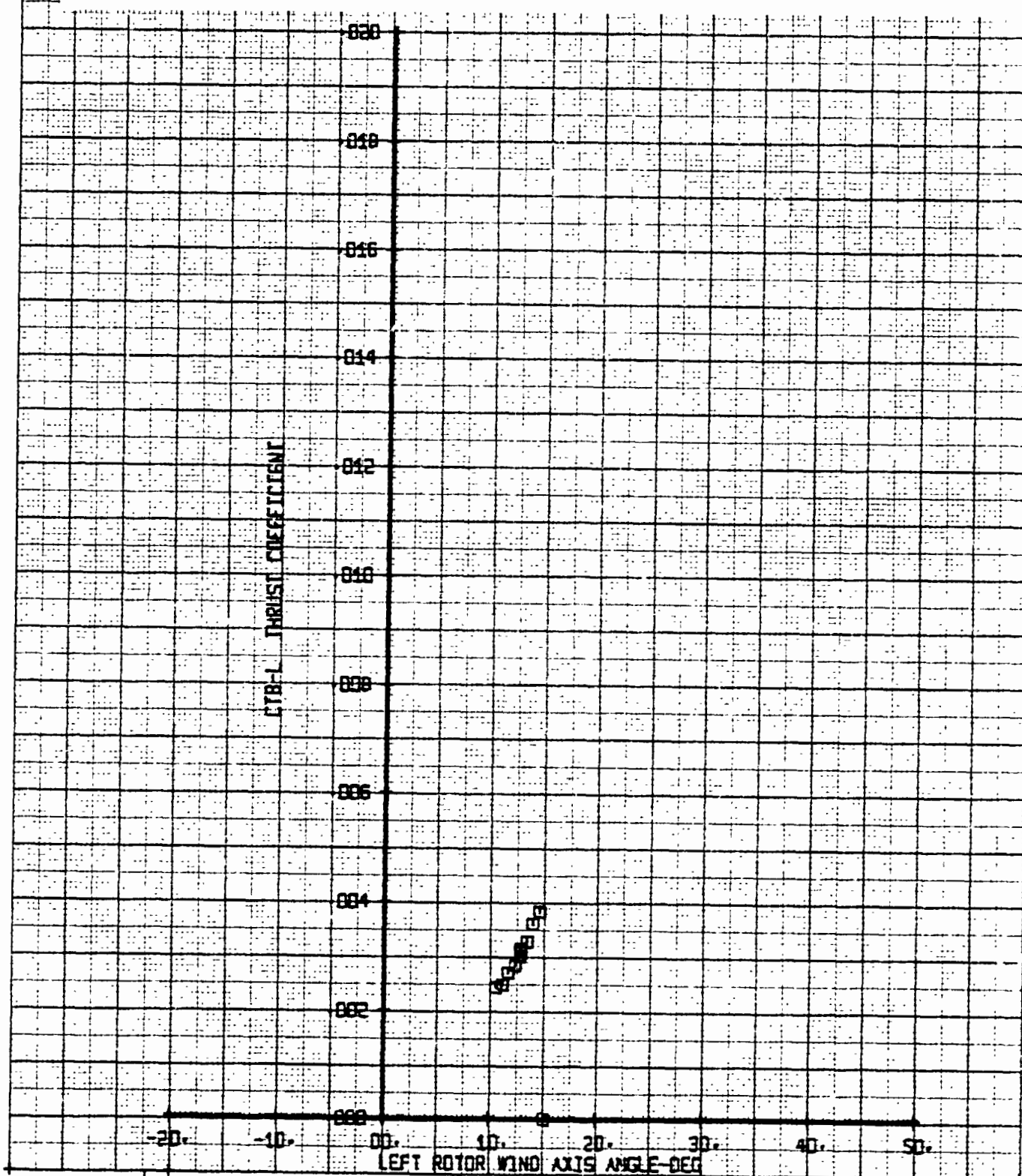
BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	117	30	180	-6
						31

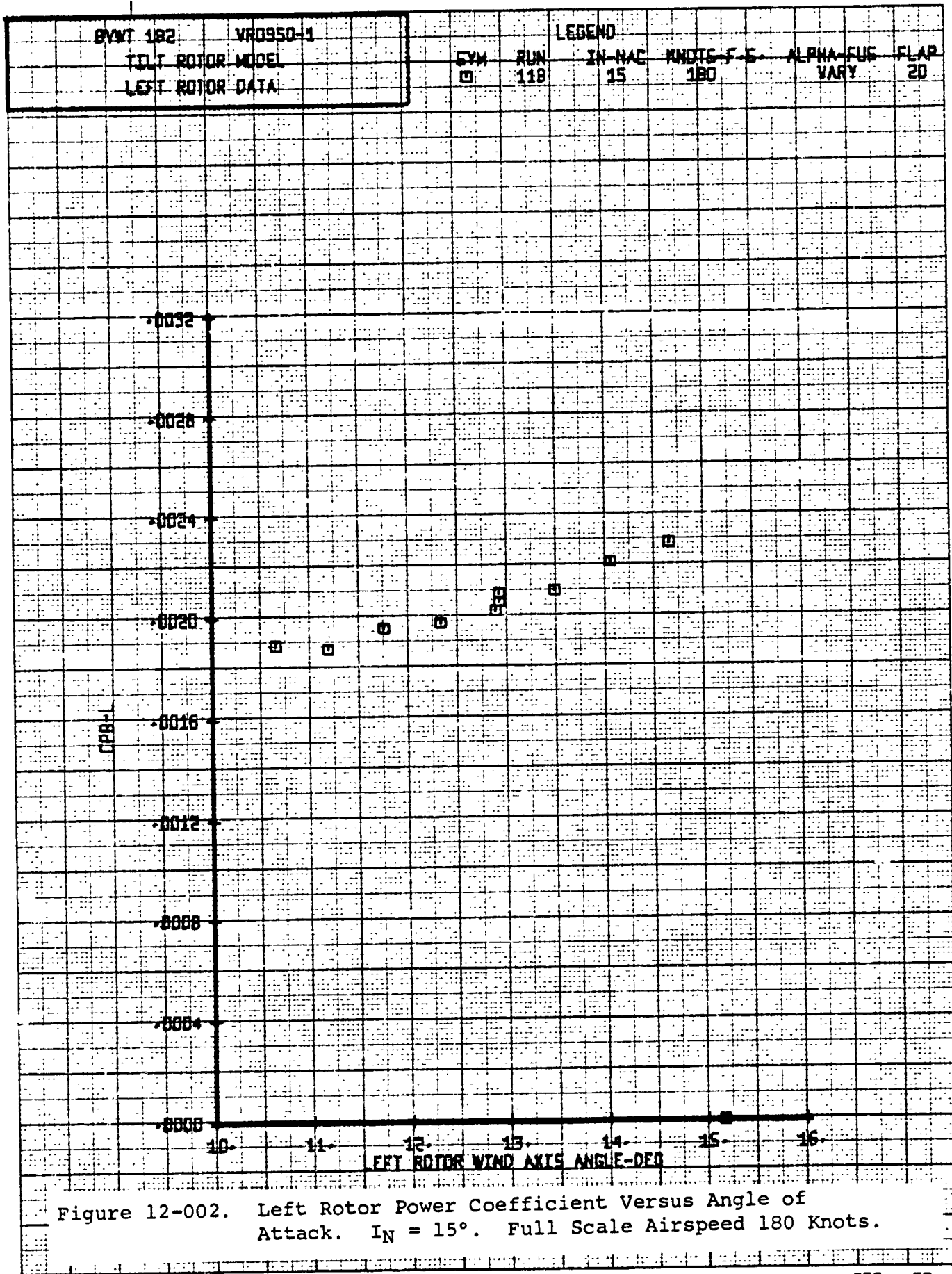
Figure 11-168. Alt. Right Pitch Link Load Versus Rotor RPM.
IN = 30° Full Scale Airspeed 180 Knots.



BYWT 182	VR0950-1	SYM	RUN	IN-NAC	KNOTS-E.S.	ALPHA-EUS	FLAP
LEFT ROTOR MODEL		0	118	15	180	VARY	20
LEFT ROTOR DATA							

Figure 12-001. Left Rotor Thrust Coefficient Versus Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





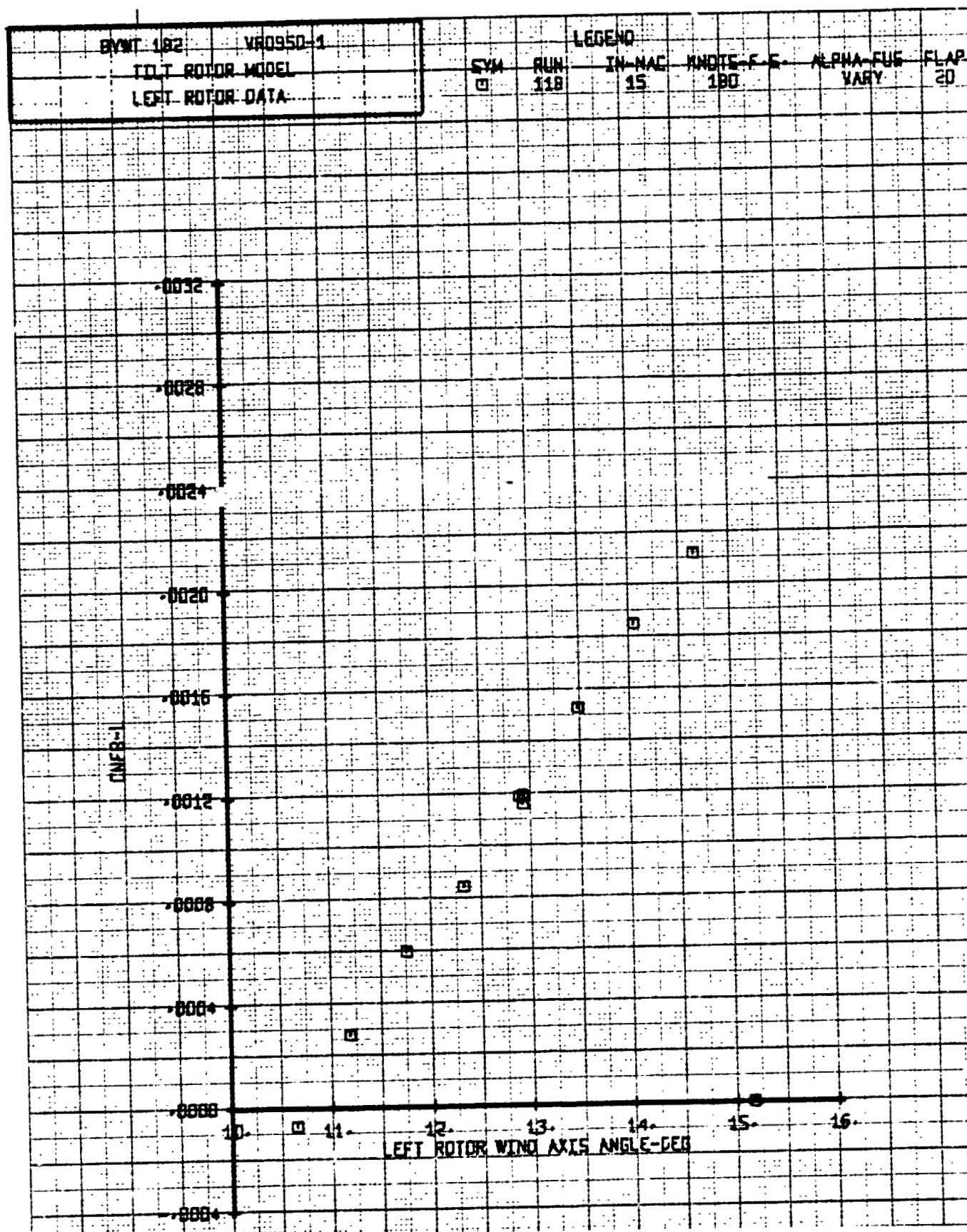
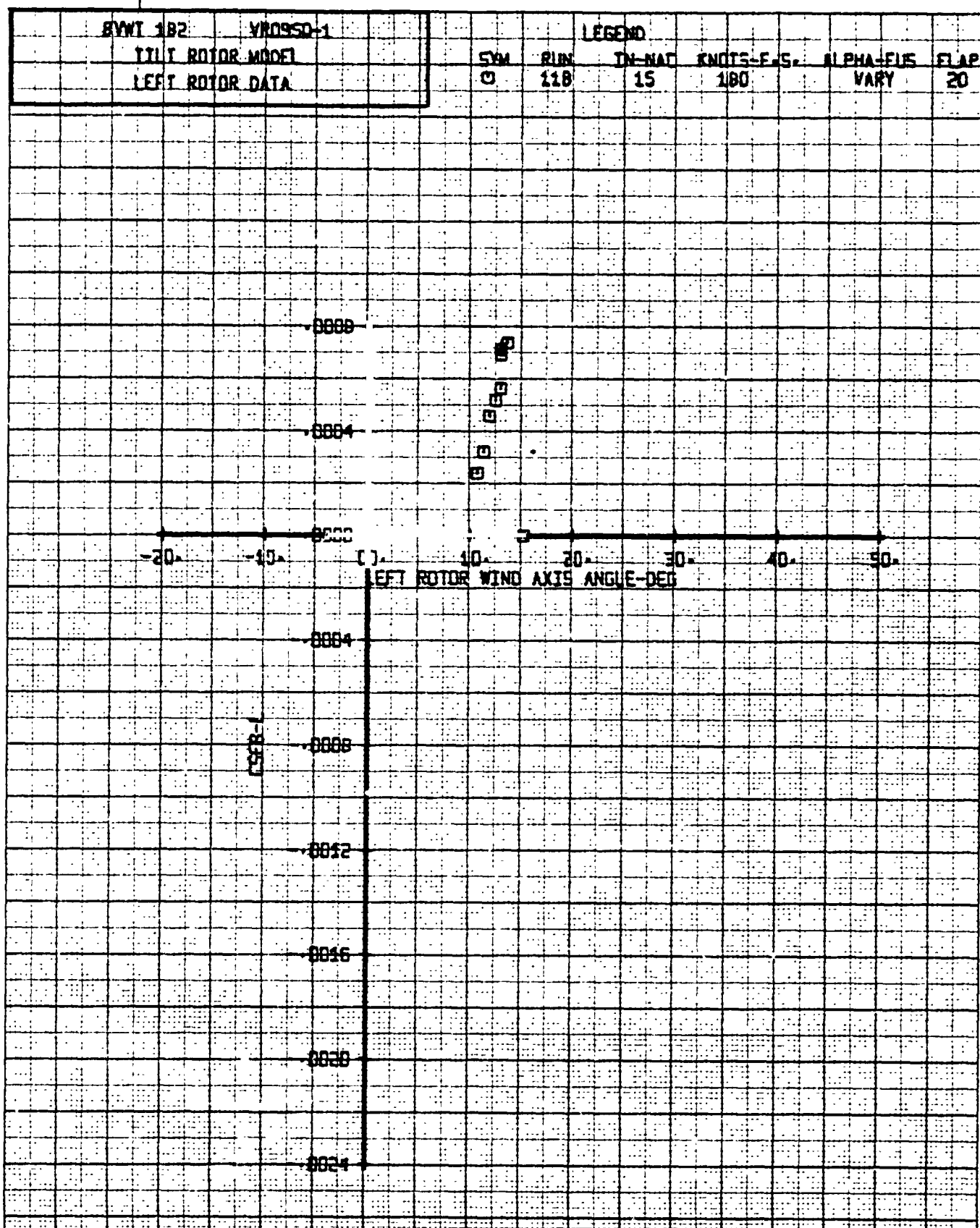


Figure 12-003. Left Rotor Normal Force Coefficient Versus Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



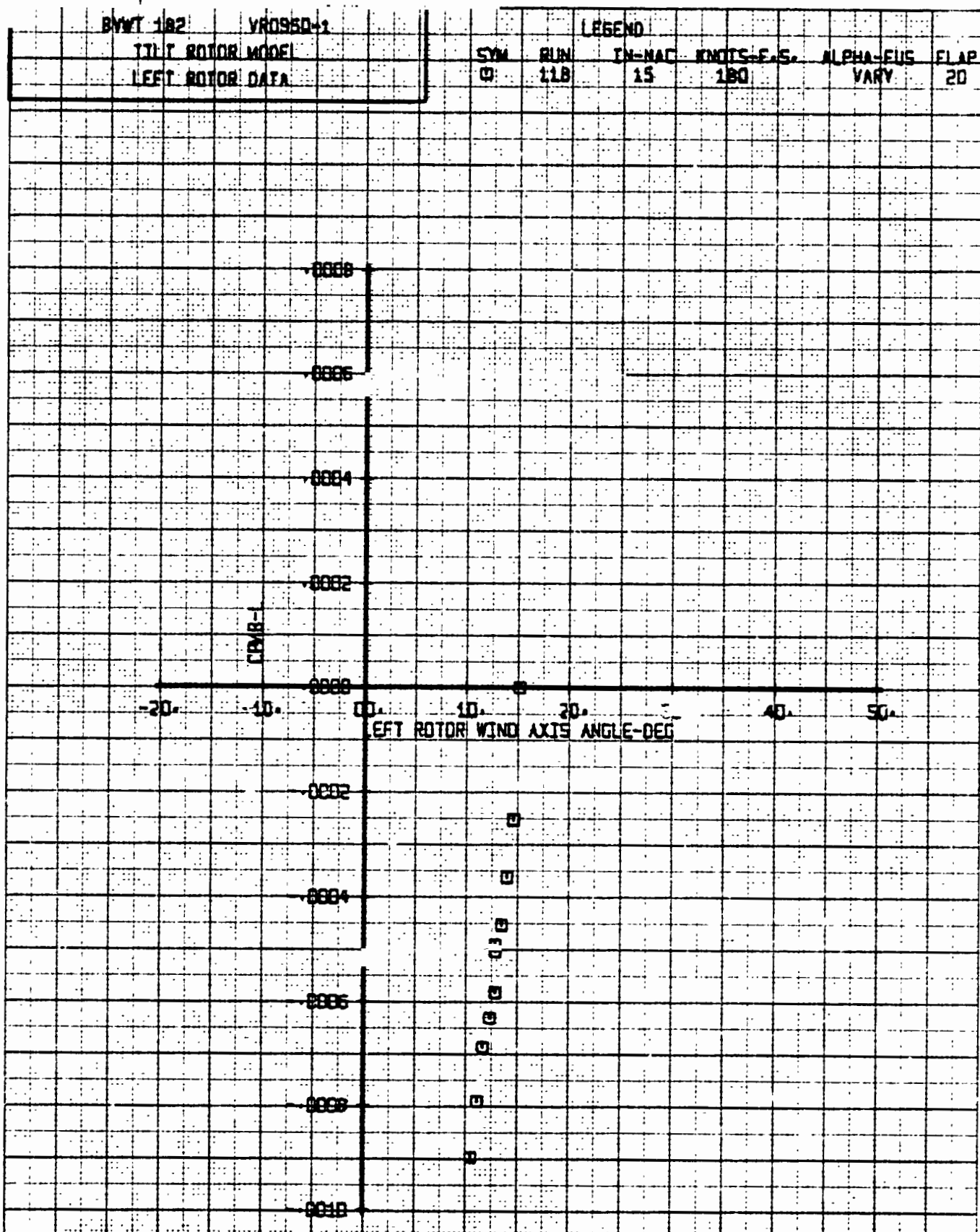


Figure 12-005. Left Rotor Pitching Moment Versus Angle of Attack.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

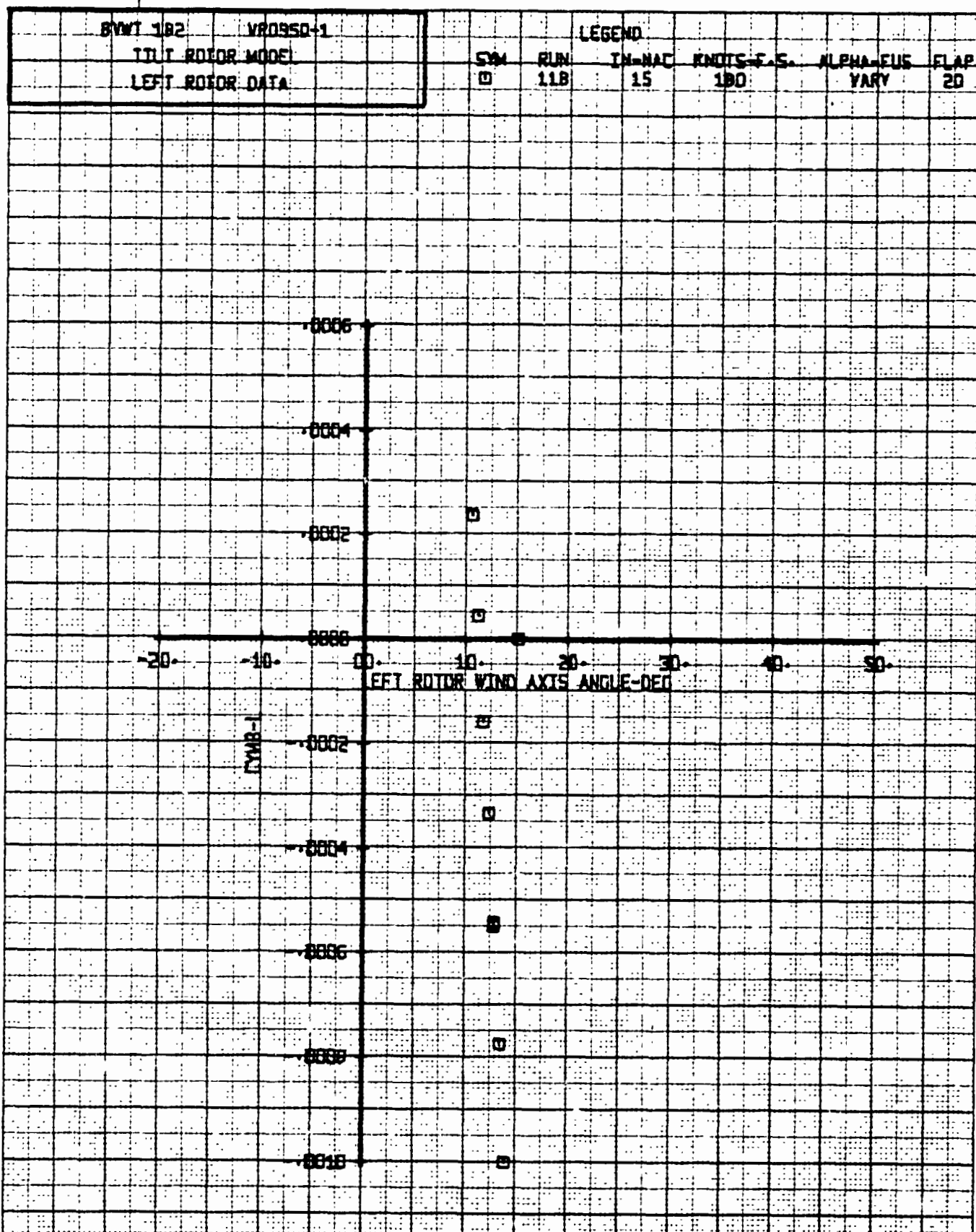
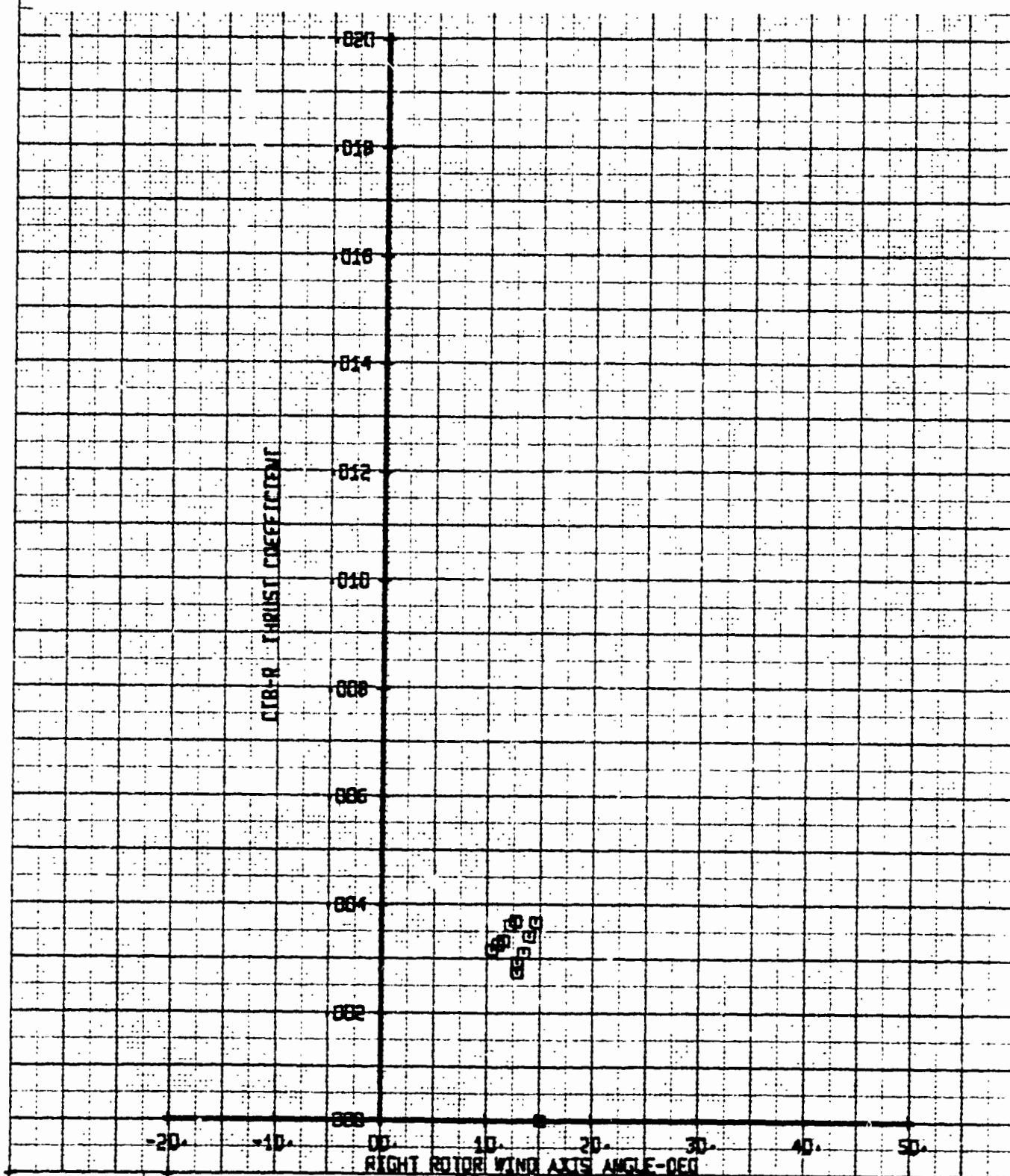
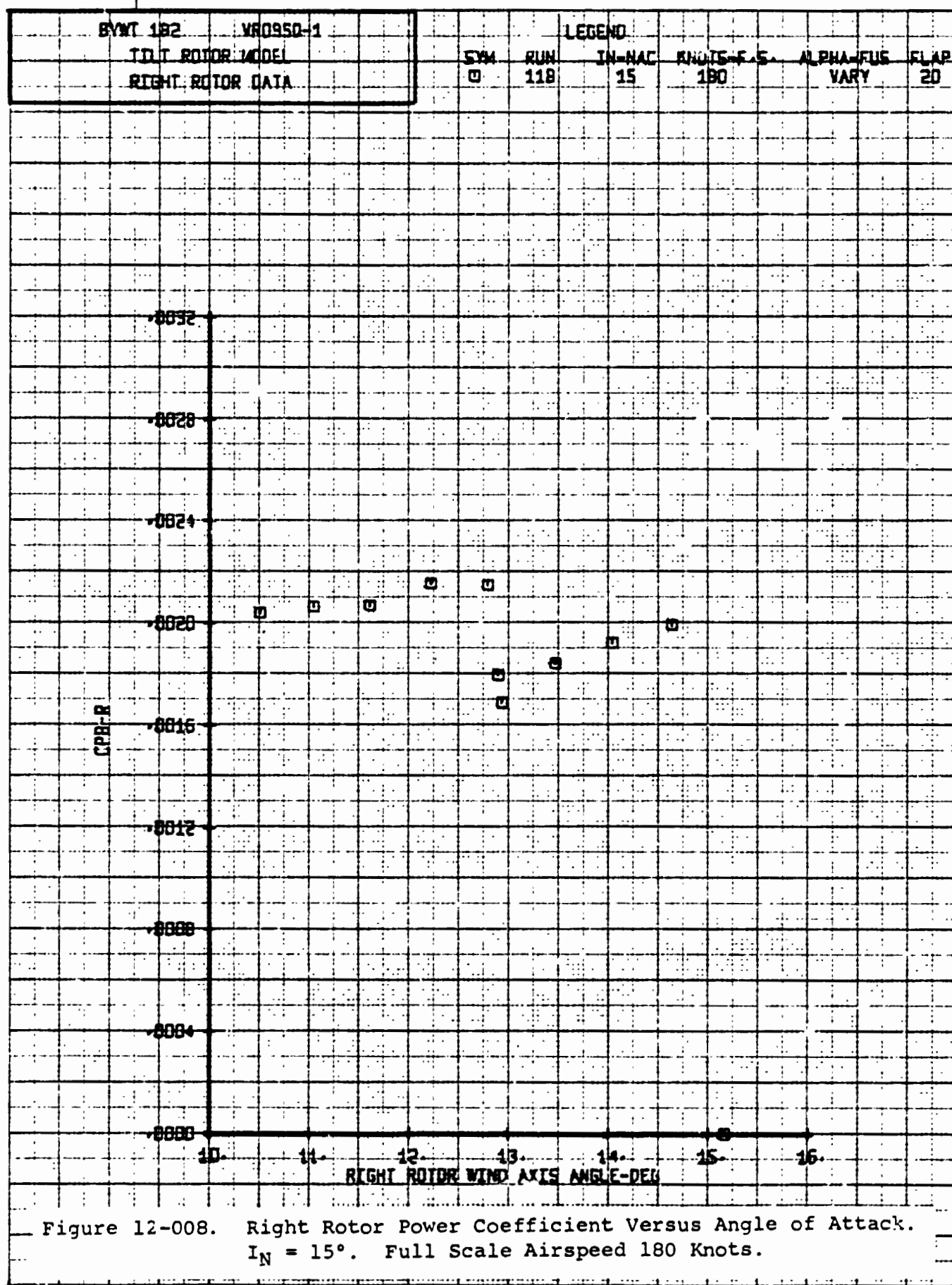


Figure 12-006. Left Rotor Yawing Moment Versus Angle of Attack.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

SVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-E.S.	ALPHA-EUS
RIGHT ROTOR DATA		□	11B	15	180	VARY
						FLAP 20

Figure 12-007. Right Rotor Thrust Coefficient Versus Angle of Attack.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





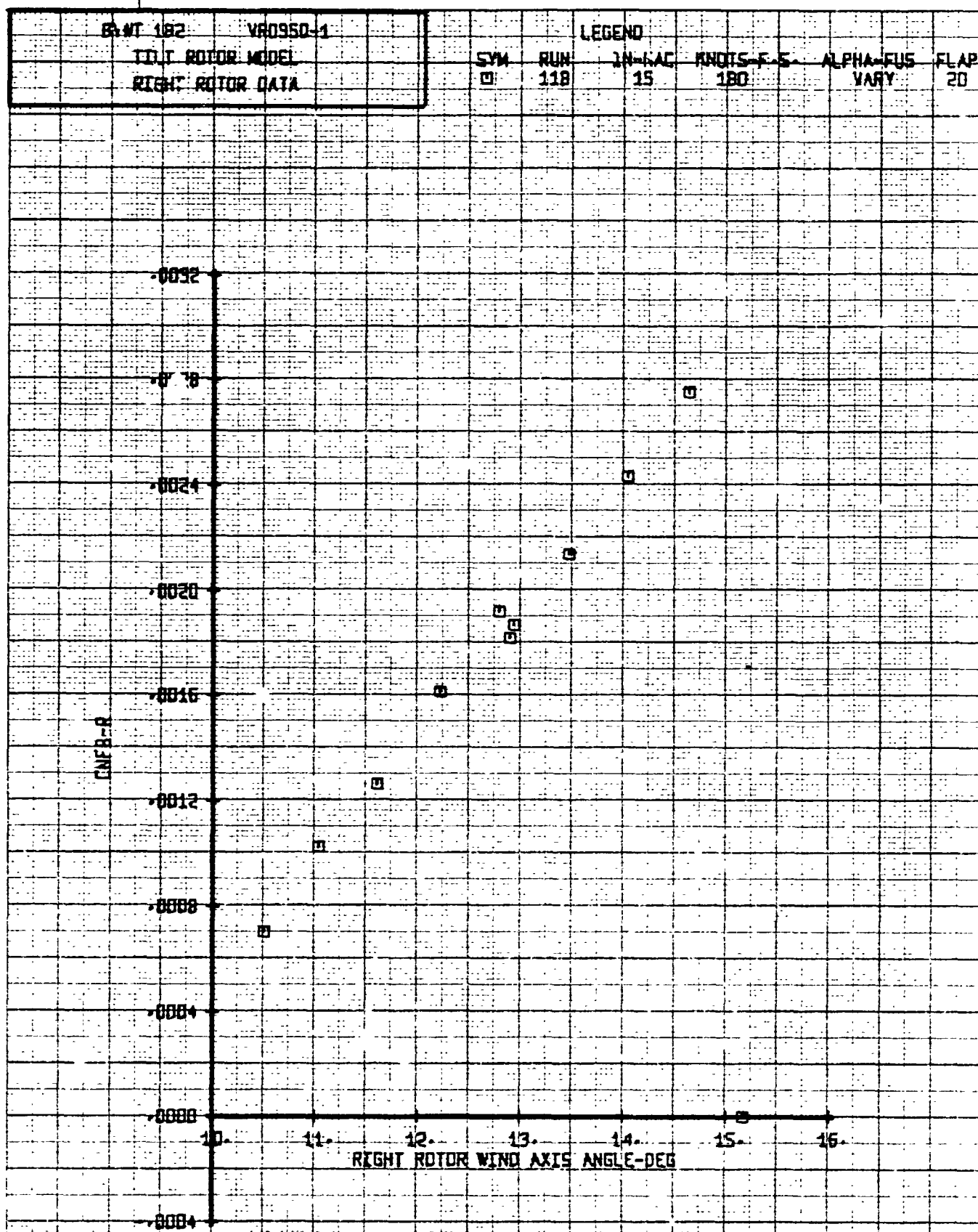
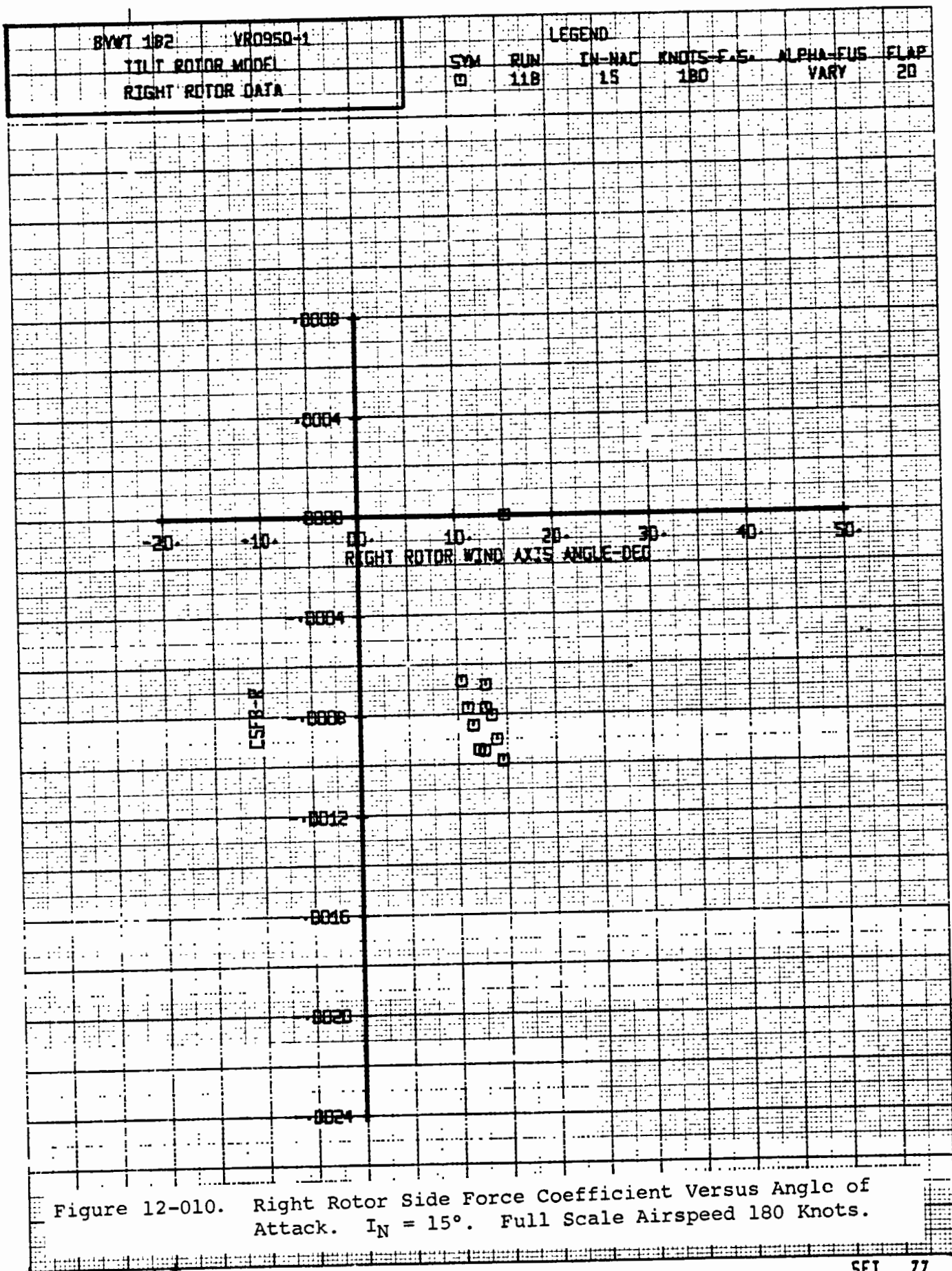


Figure 12-009. Right Rotor Normal Force Coefficient Versus Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



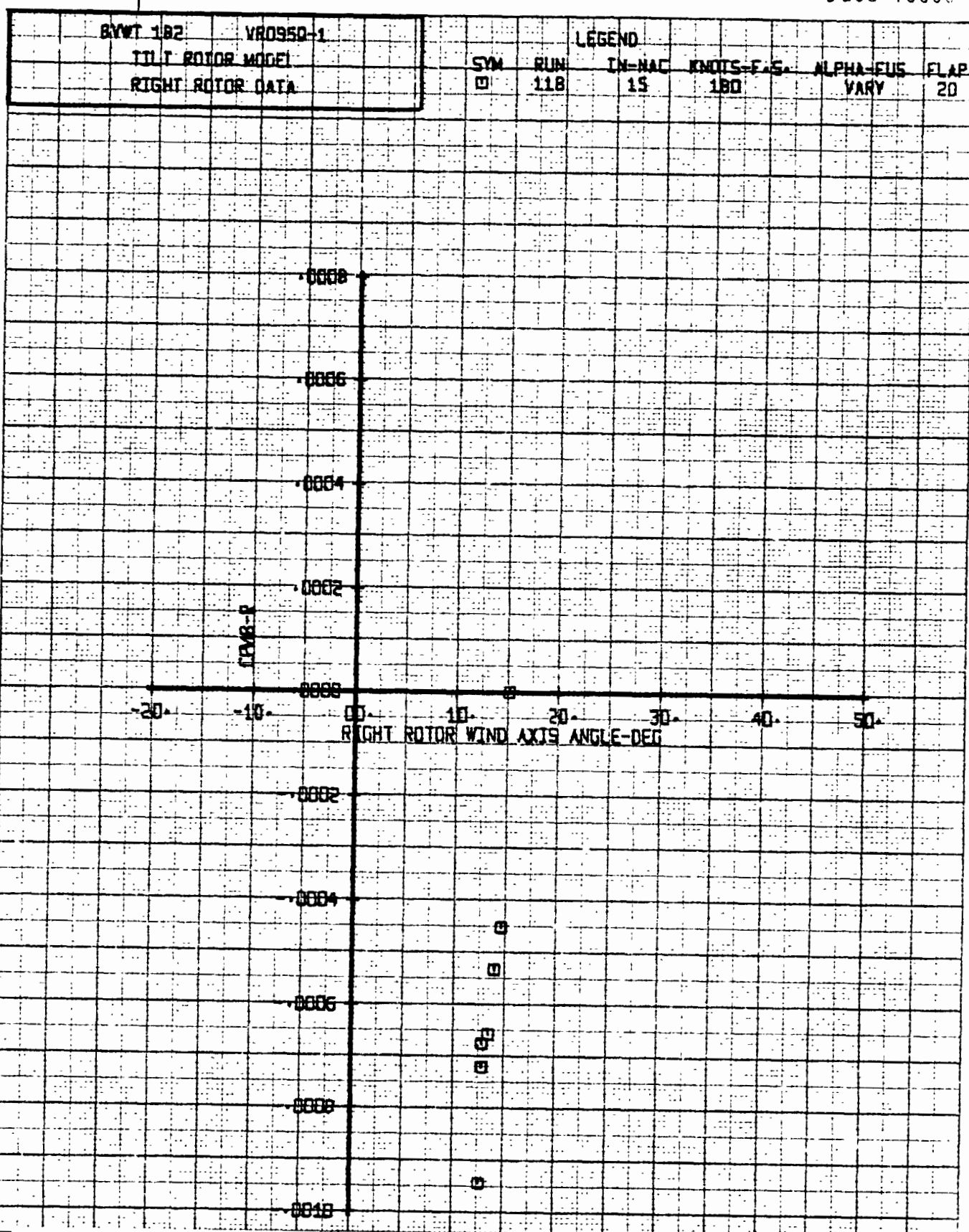
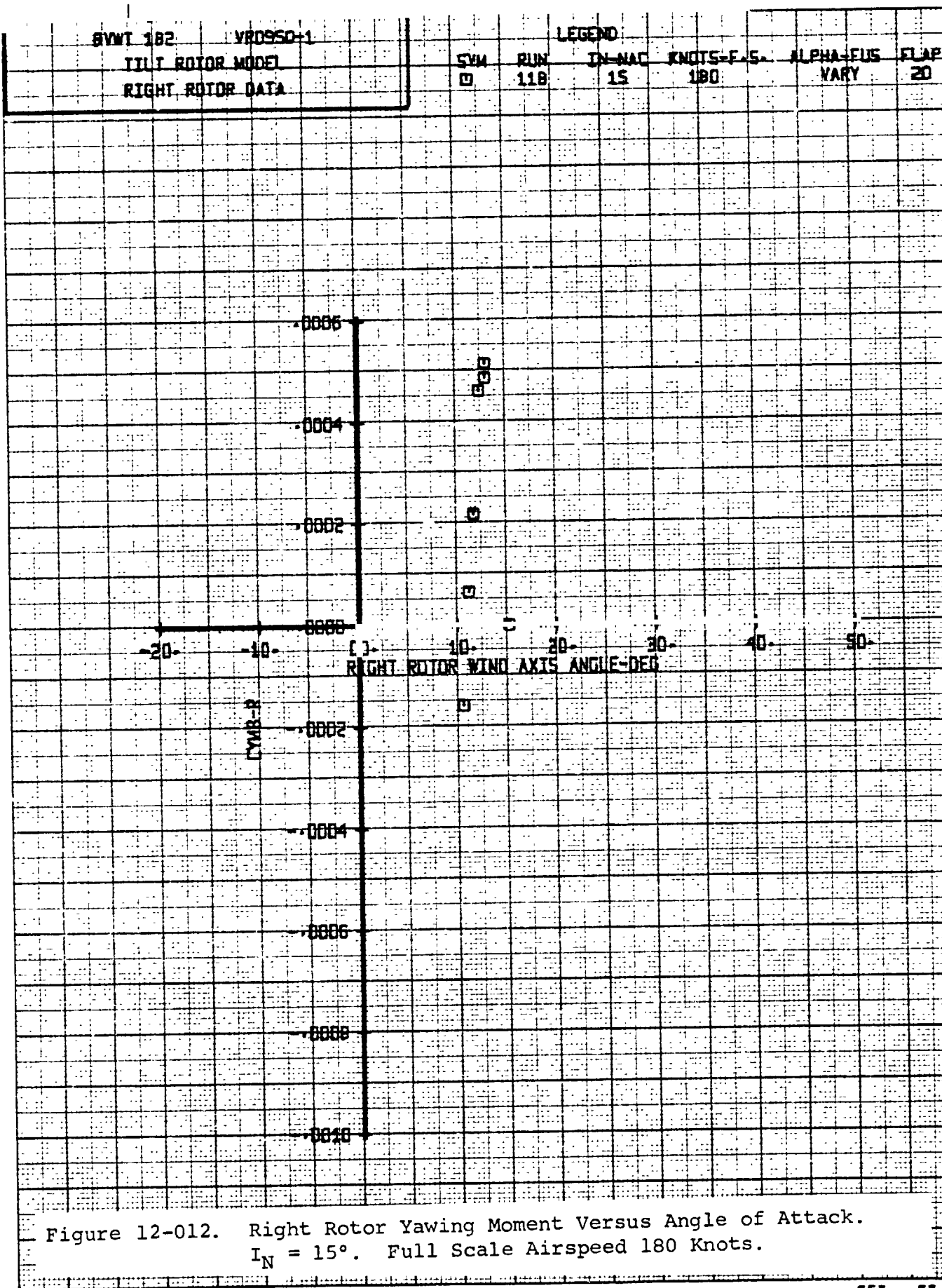
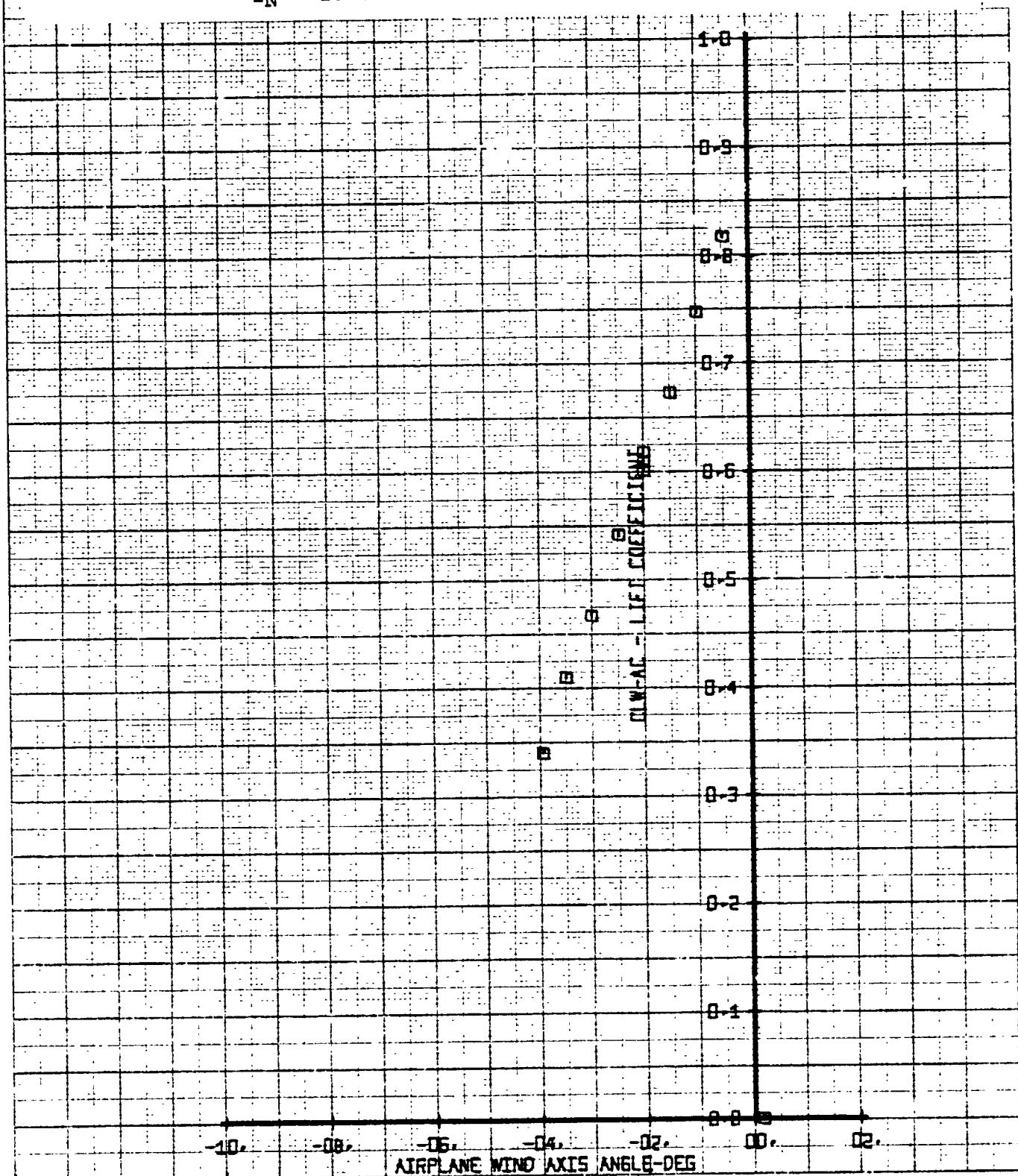


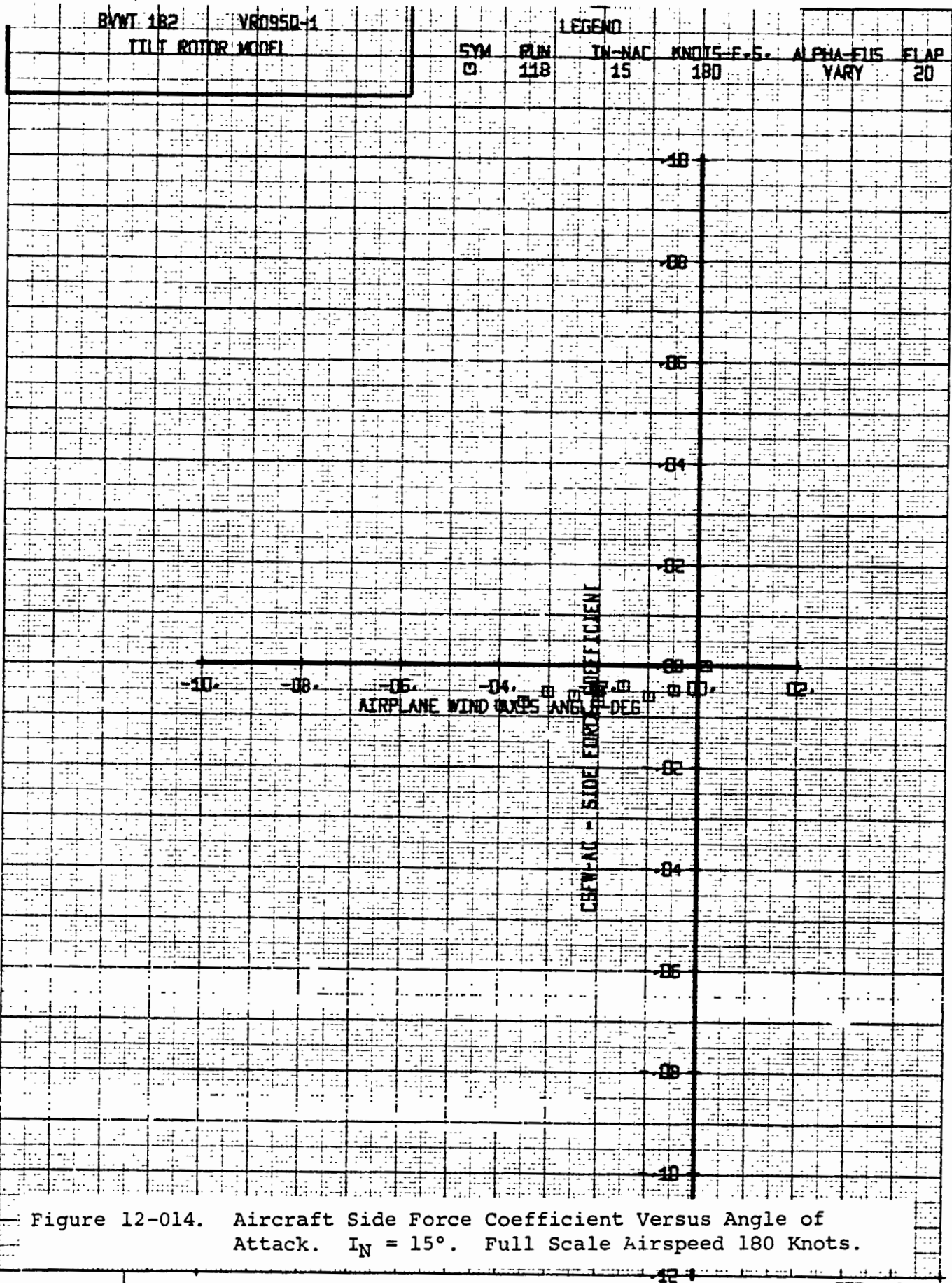
Figure 12-011. Right Rotor Pitching Moment Versus Angle of Attack.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND				
T.O.T. ROTOR MODEL		SYM	MIN	IN-NAC	KNOTS-E.S.	ALPHA-FUS
		□	118	15	180	VARY
						FLAP 20

Figure 12-013. Aircraft Lift Coefficient Versus Angle of Attack.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





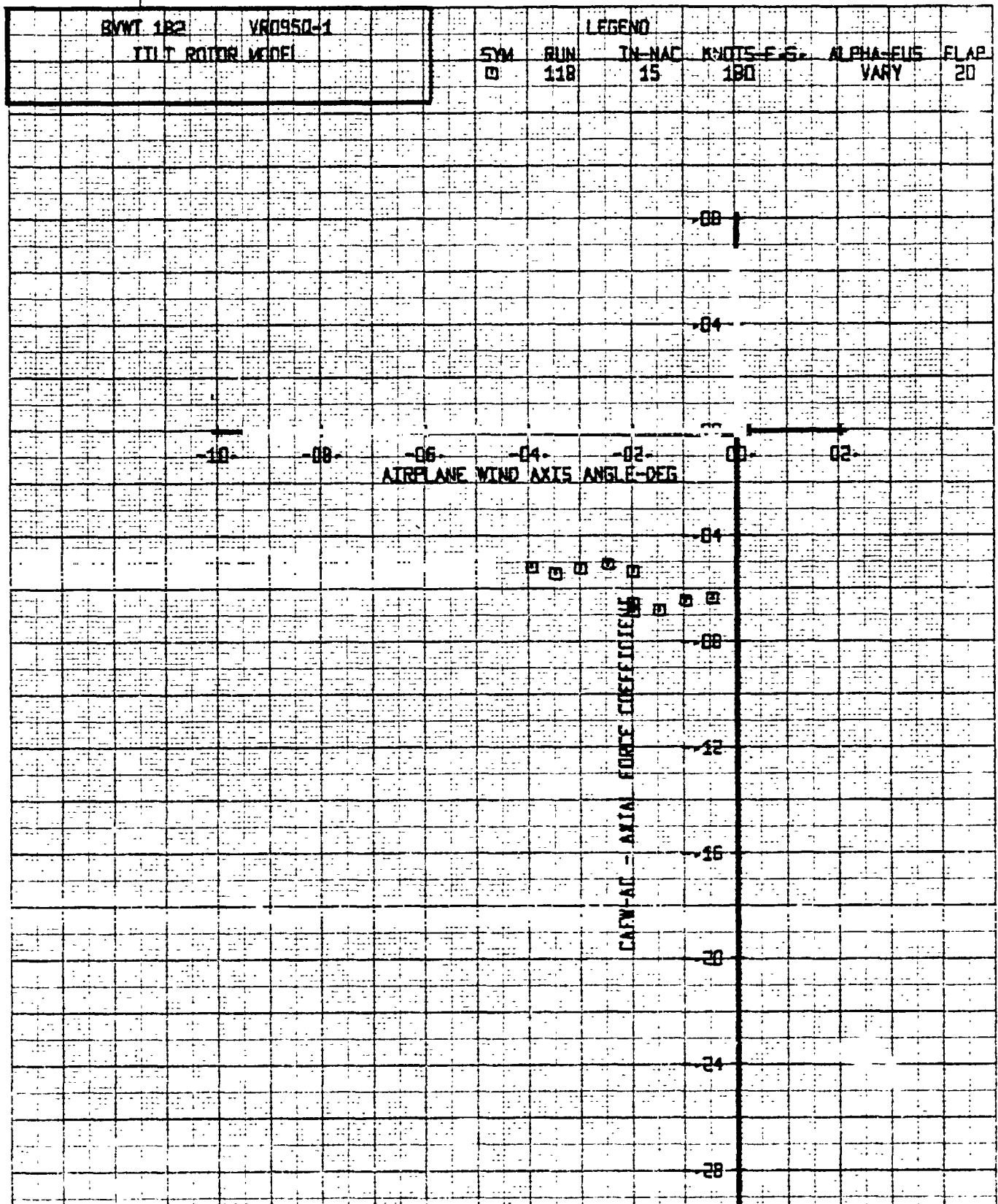
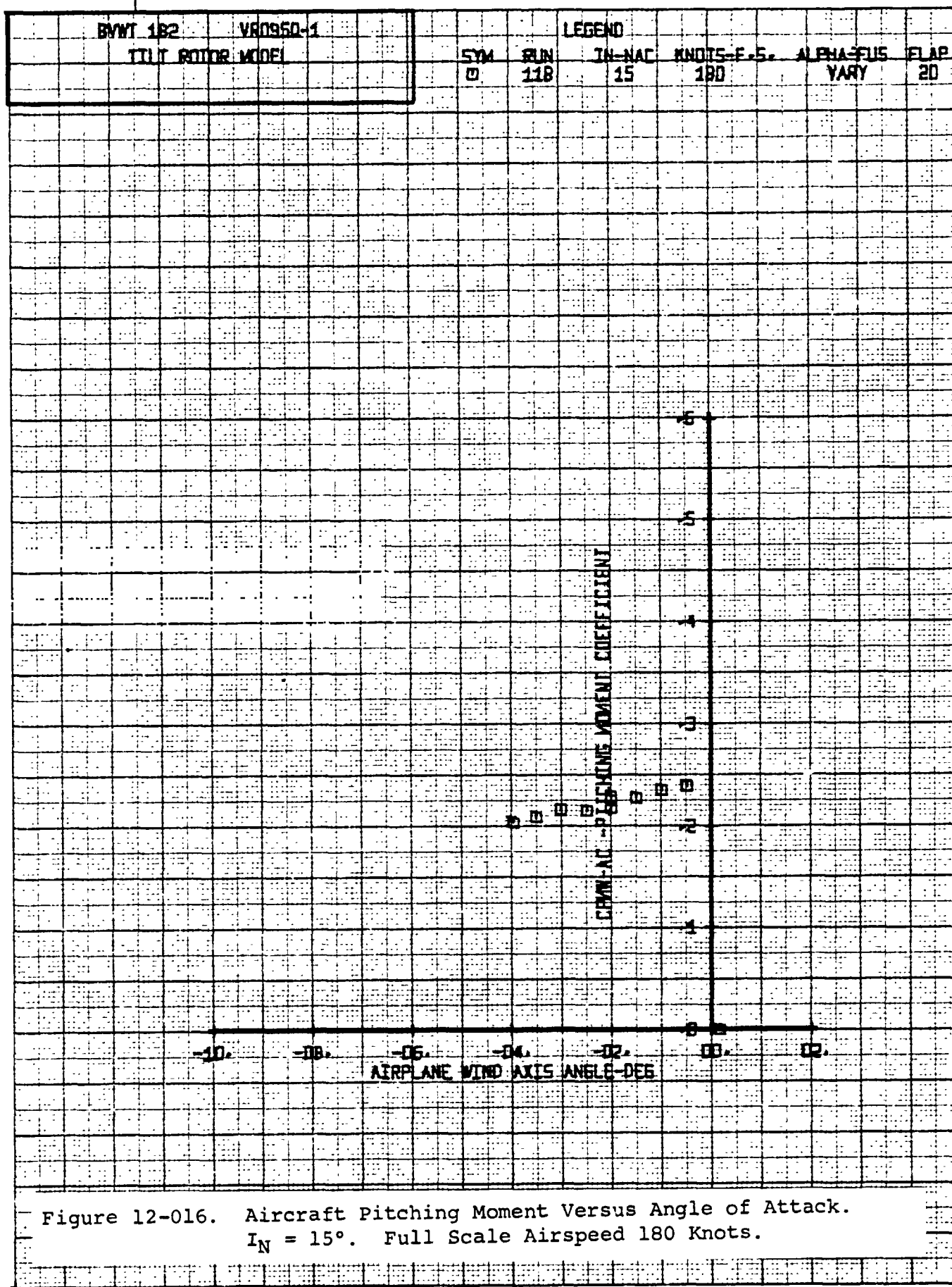


Figure 12-015. Aircraft Axial Force Coefficient Versus Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



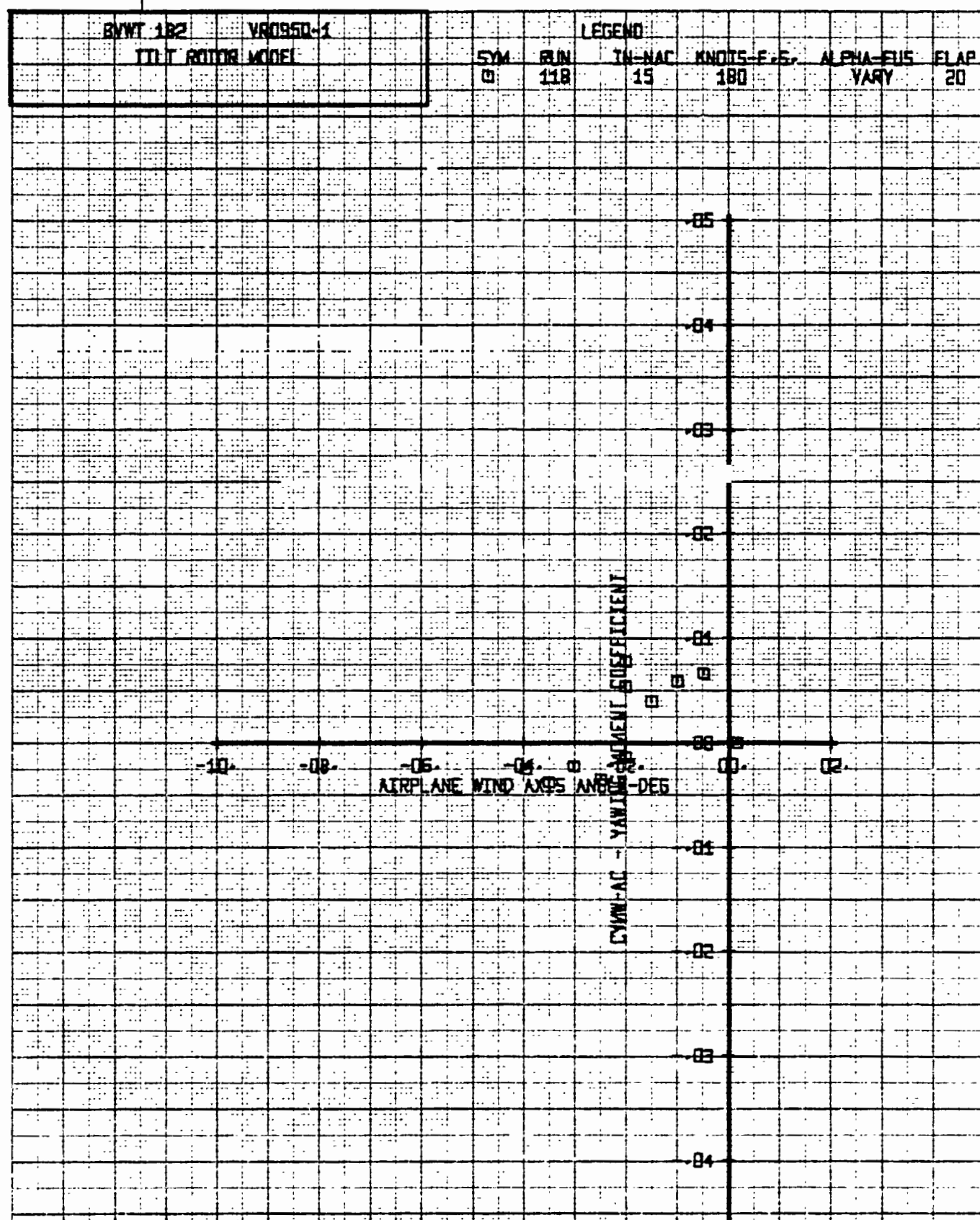
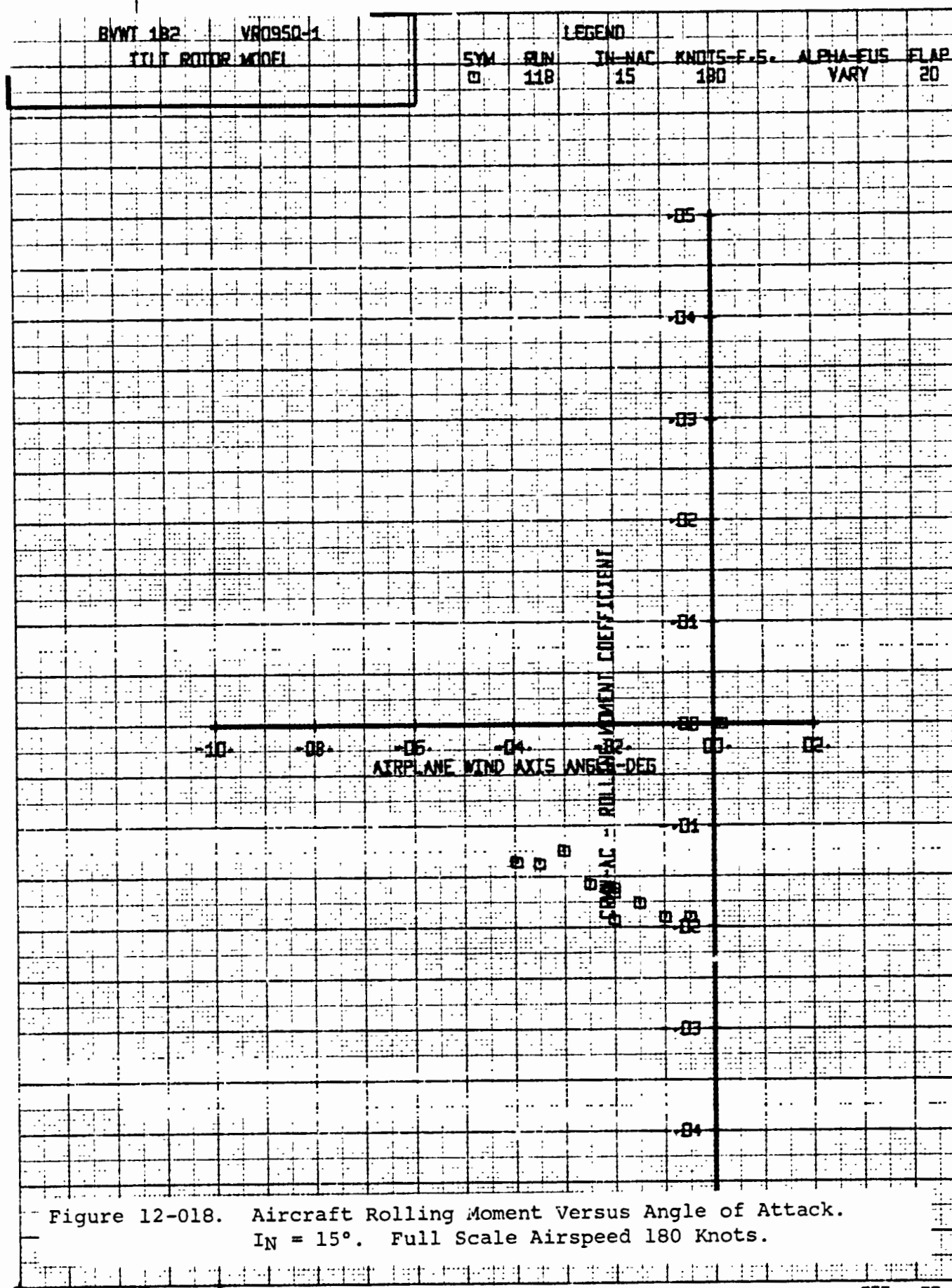


Figure 12-017. Aircraft Yawing Moment Versus Angle of Attack.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



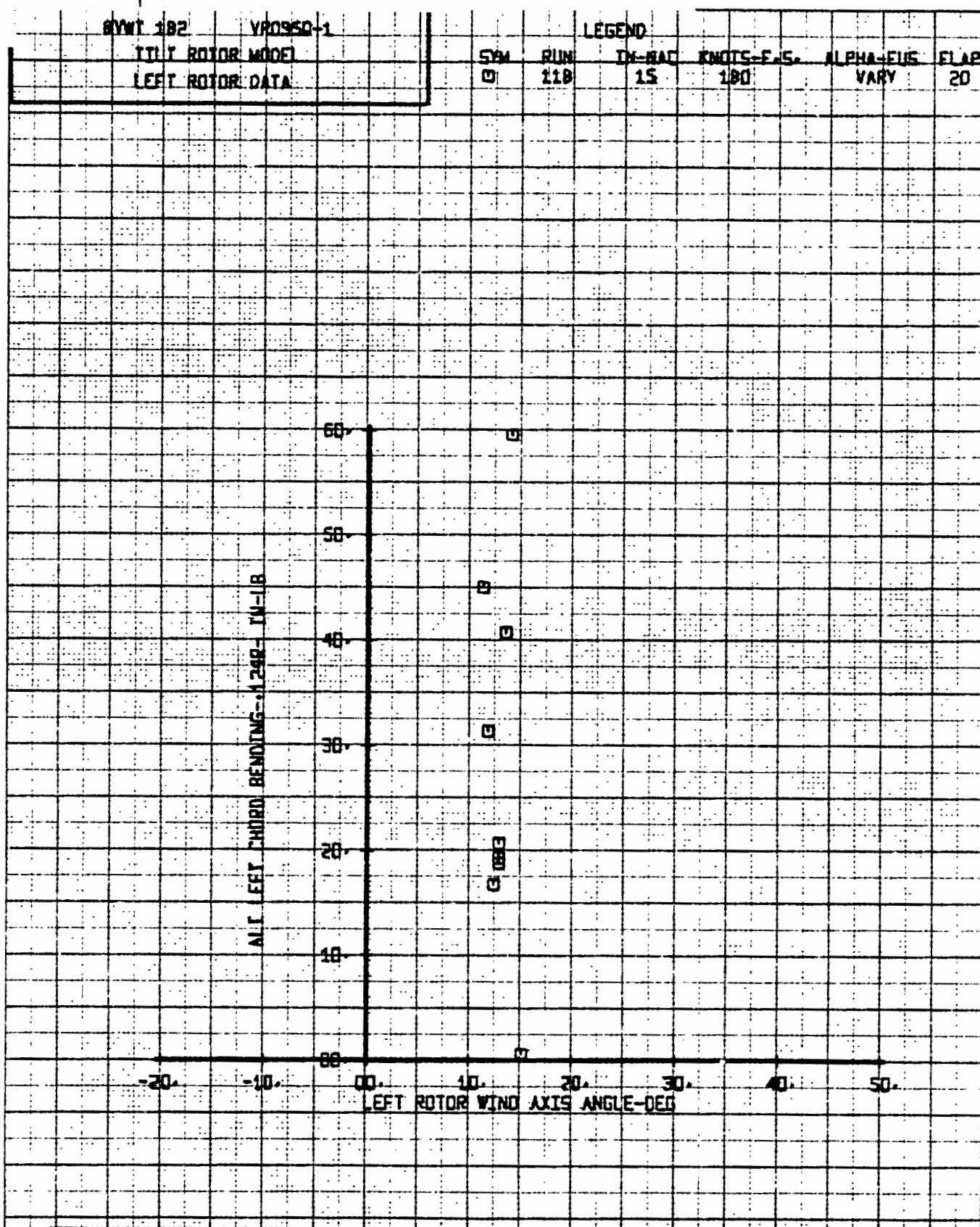
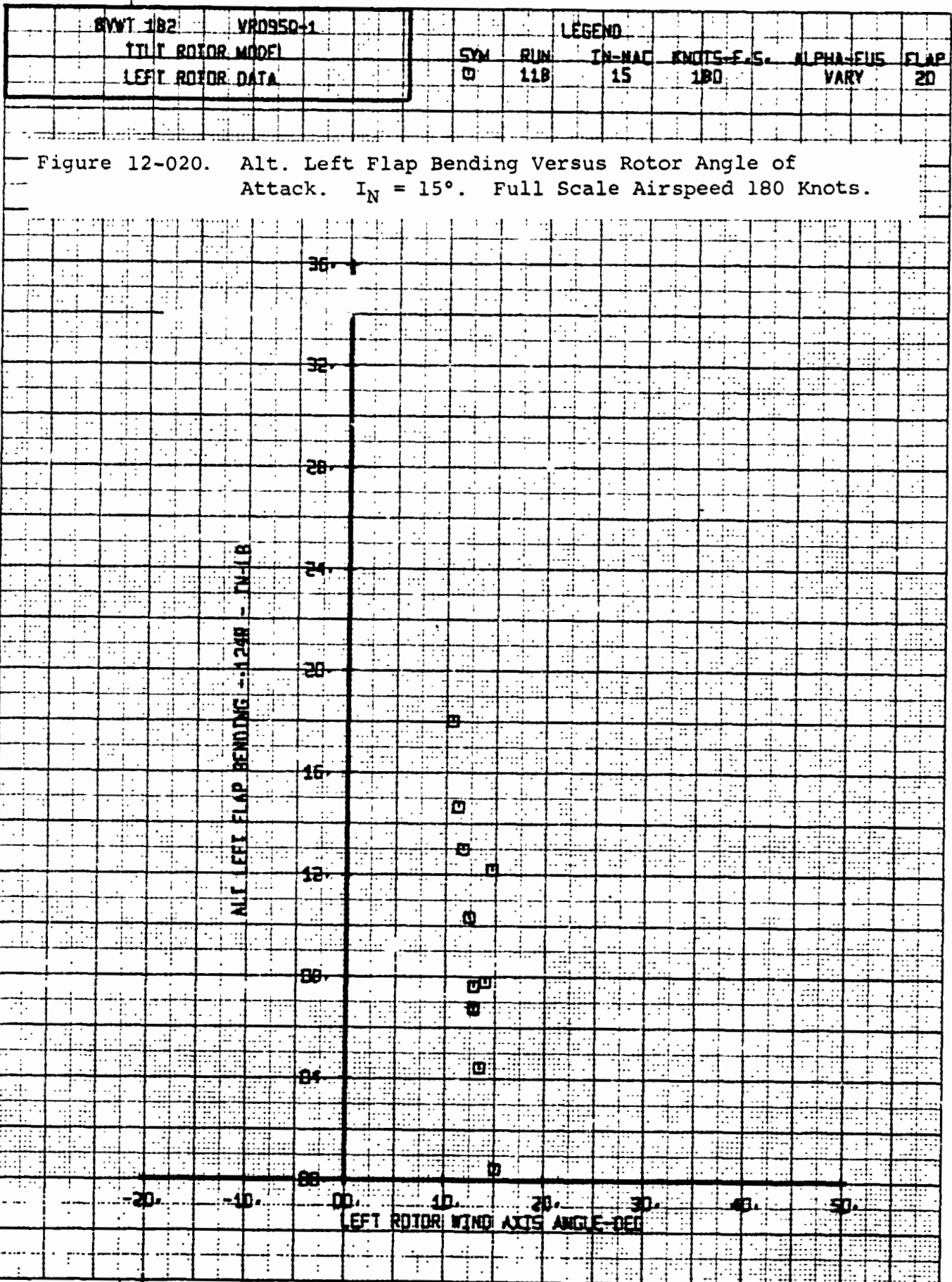


Figure 12-019. Alt. Left Chord Bending Versus Rotor Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



ALT LEFT PITCH ARM - INCHES

LEFT ROTOR WIND AXIS ANGLE-DEG

Left Rotor Wind Axis Angle (deg)	Alt Left Pitch Arm (inches)
10.5	4.8
11.0	5.0
11.5	5.5
12.0	5.8
12.5	6.3
12.5	6.4
12.8	6.6
13.2	6.8
13.8	7.2
14.2	7.3
14.8	7.8
15.2	2.2

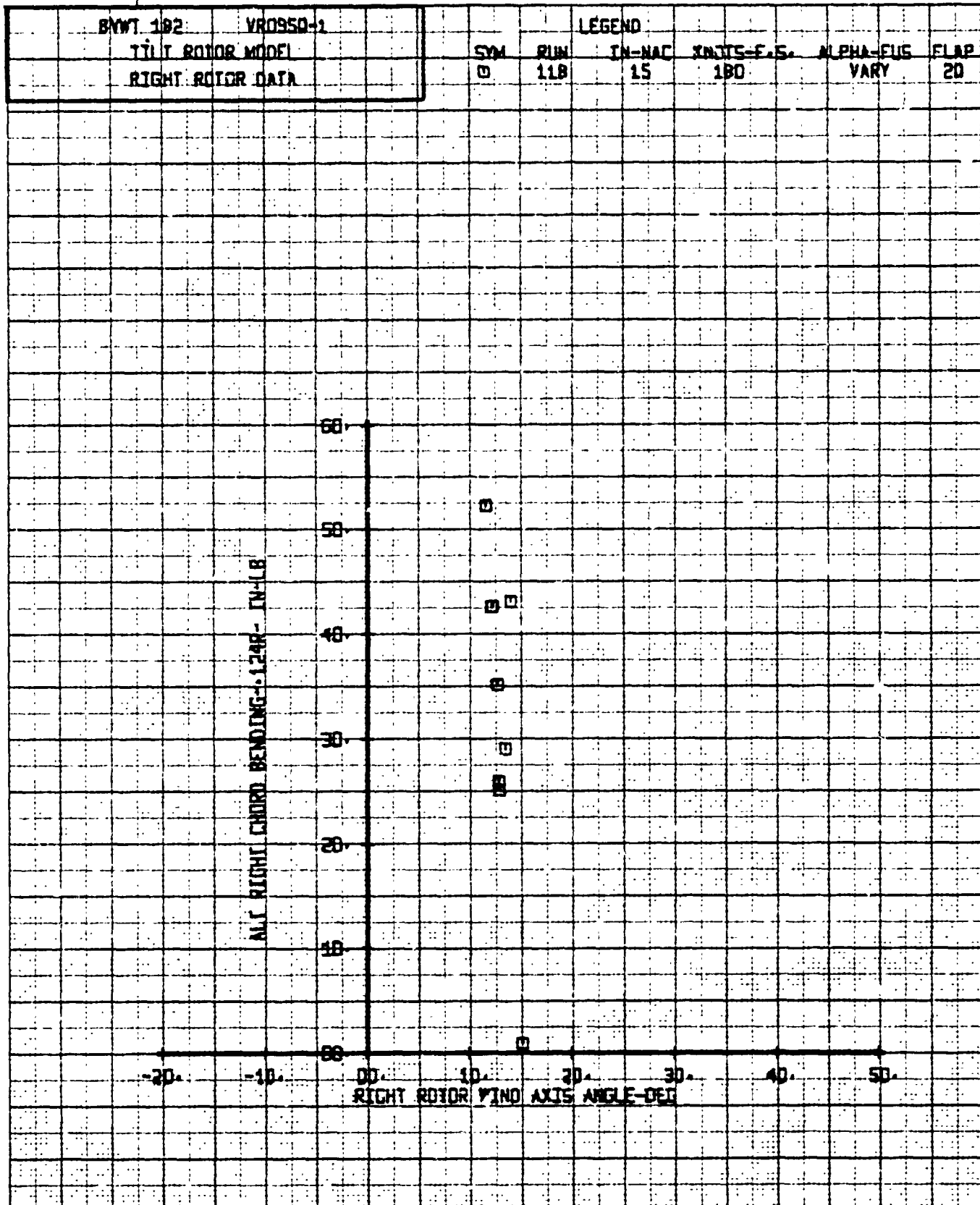
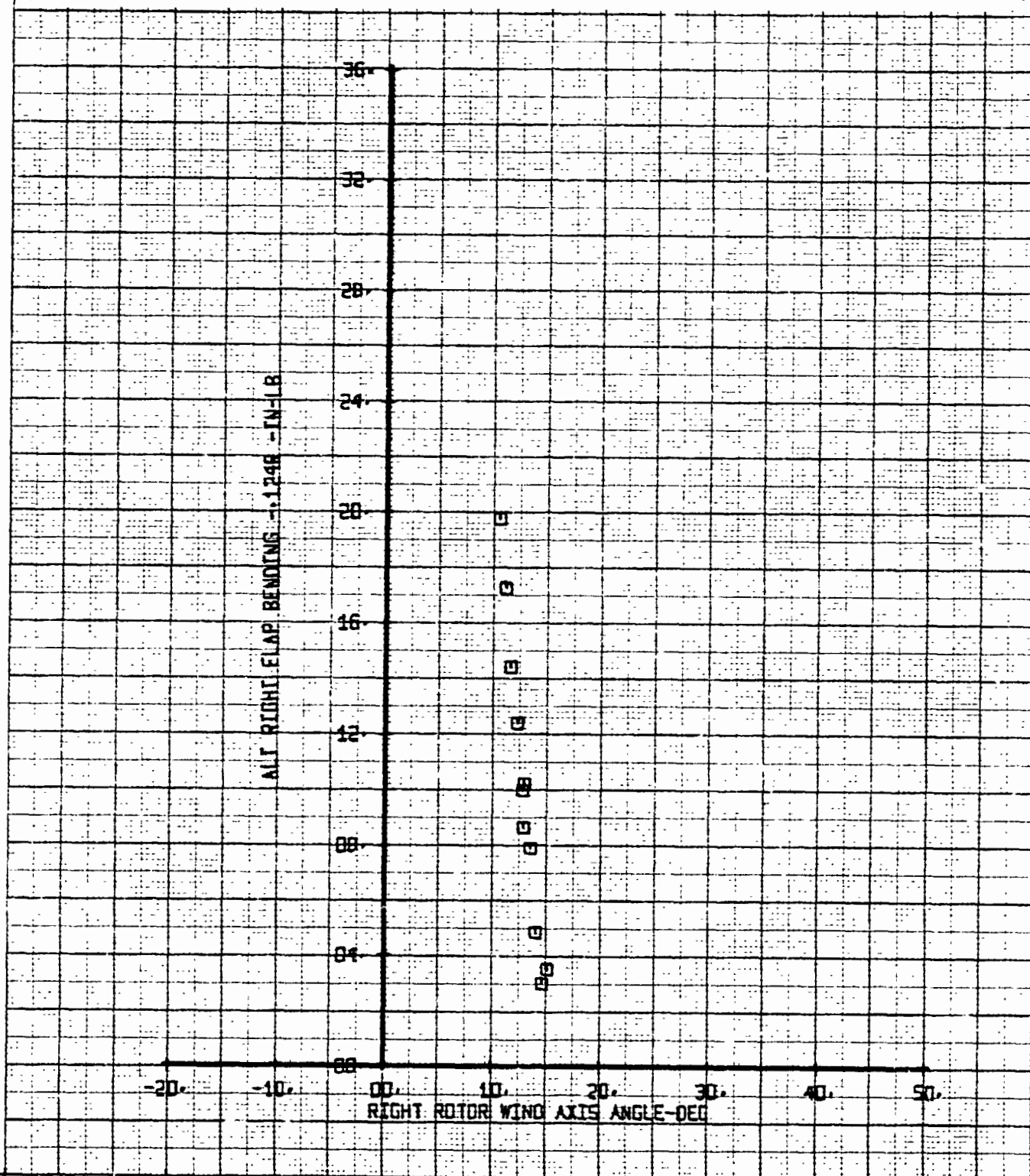


Figure 12-022. Alt. Right Chord Bending Versus Rotor Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

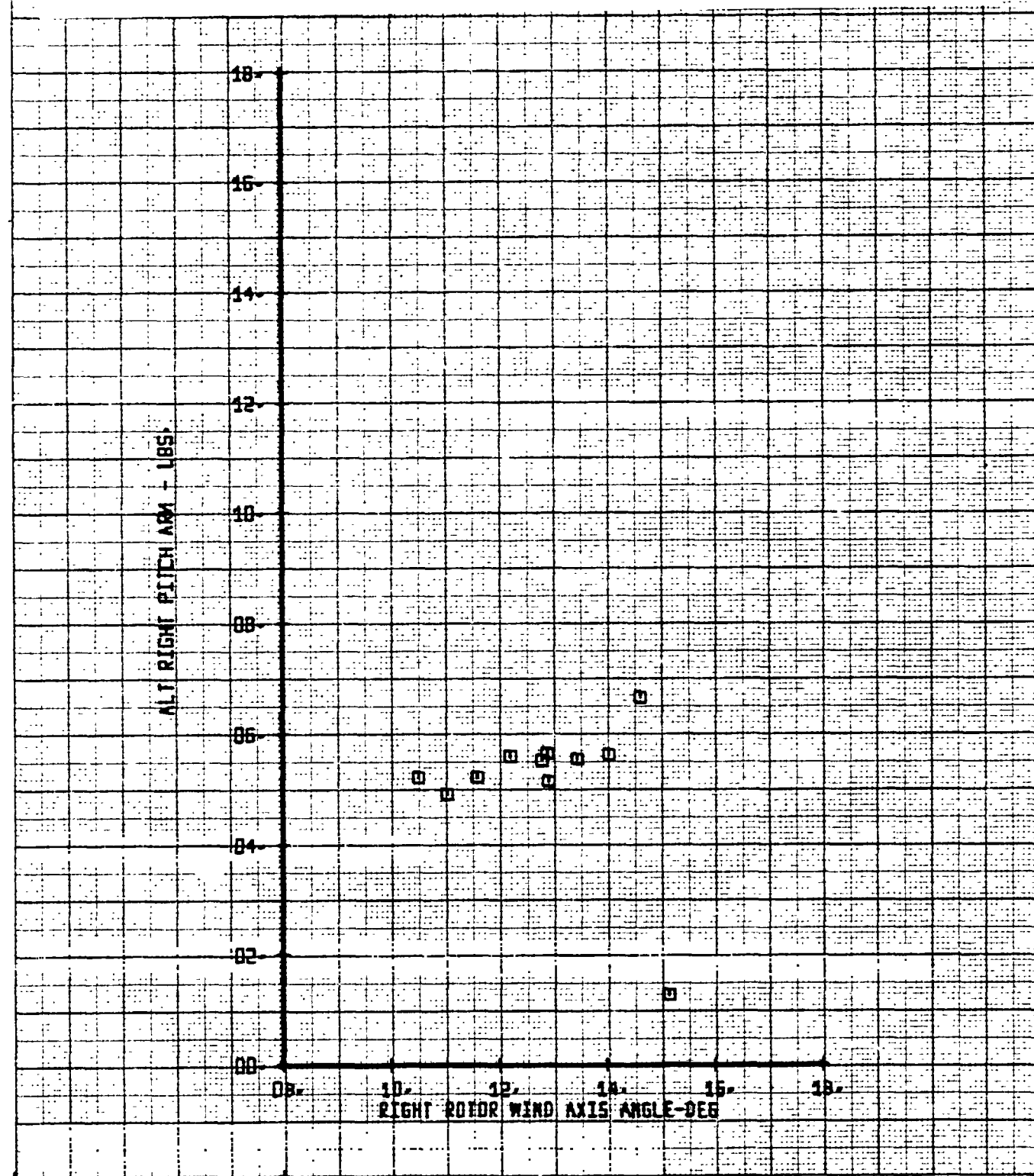
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAE	KNOTS-F-S.	ALPHA-EUS
RIGHT ROTOR DATA		0	11B	15	180	VARY
						FLAP 20

Figure 12-023. Alt. Right Flap Bending Versus Rotor Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



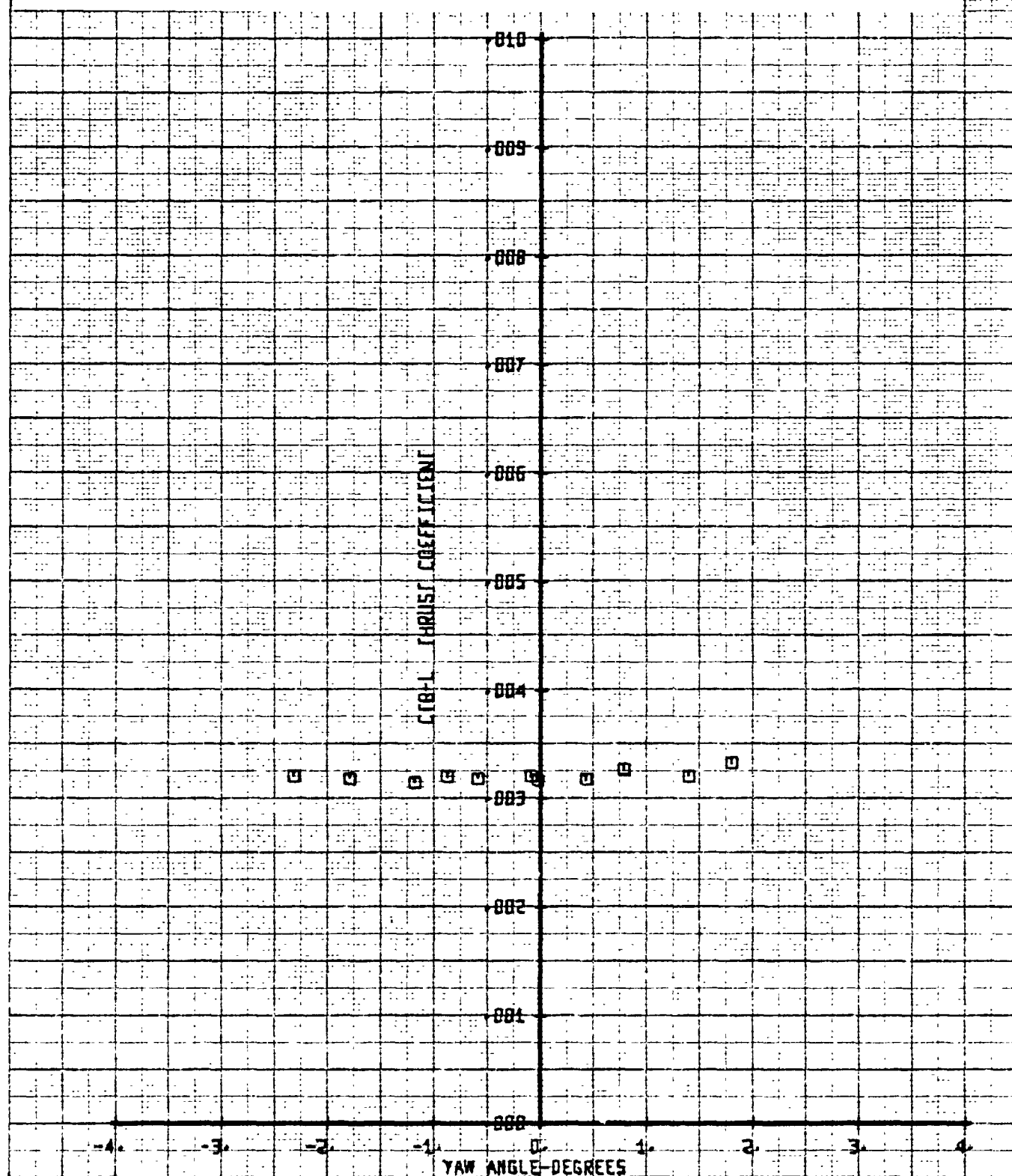
BVWT 182	VR0950-1	LEGEND				
TILLY ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		G	11B	15	180	VARY
						FLAP 20

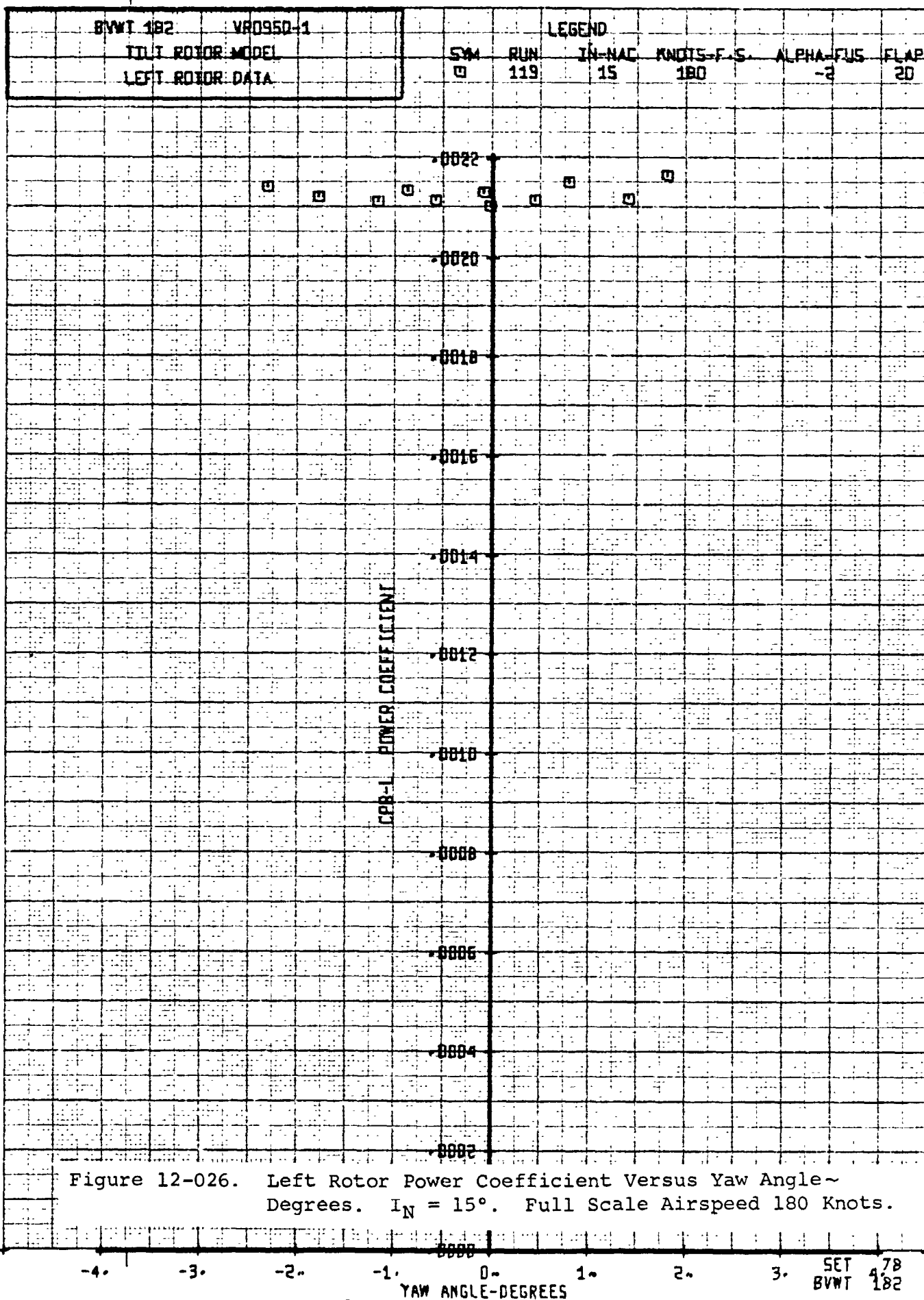
Figure 12-024. Alt. Right Pitch Link Load Versus Rotor Angle of Attack. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		Sym	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	119	15	180	-2
						FLAP 20

Figure 12-025. Left Rotor Thrust Coefficient Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





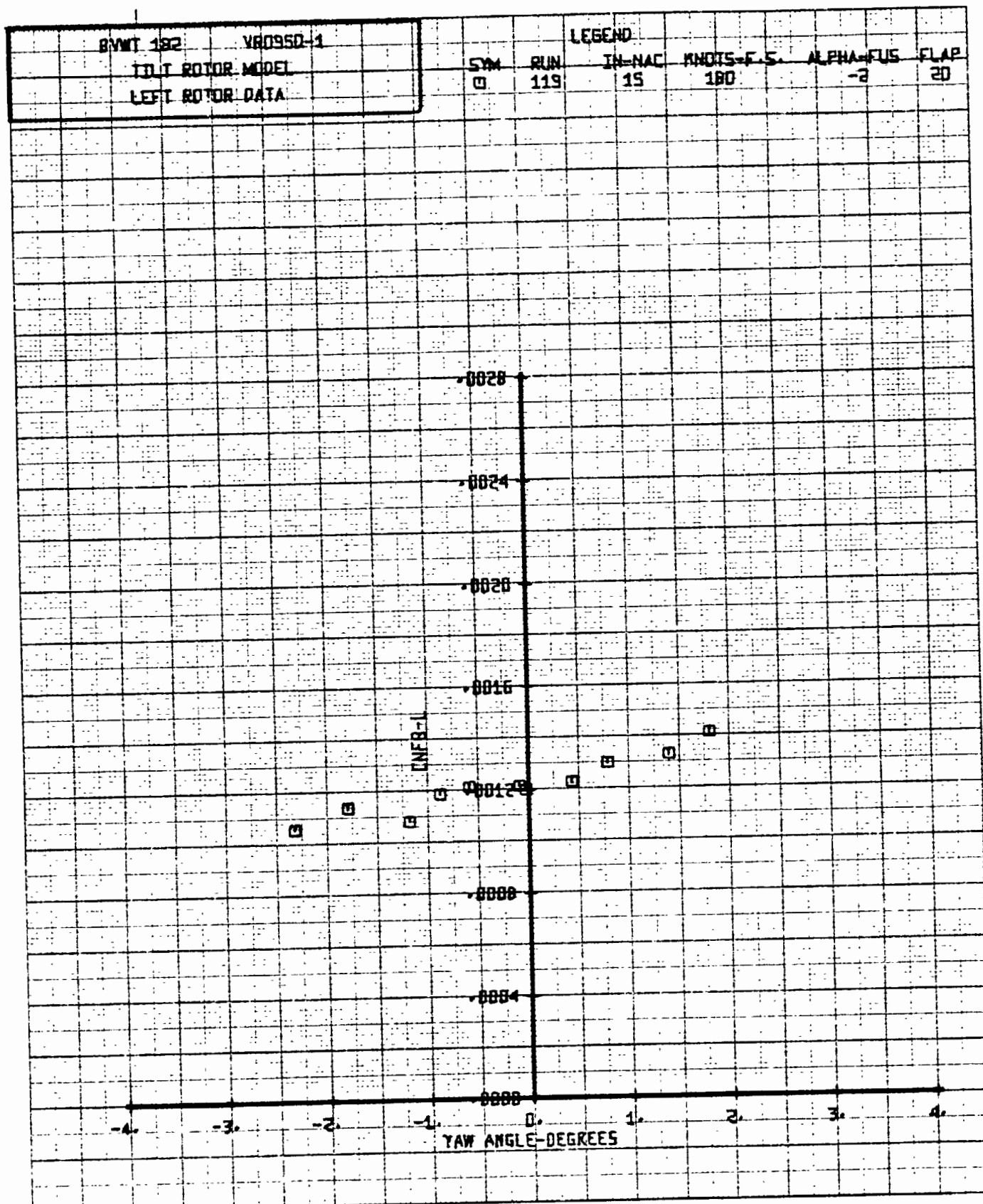


Figure 12-027. Left Rotor Normal Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	119	15	180	-2
						20

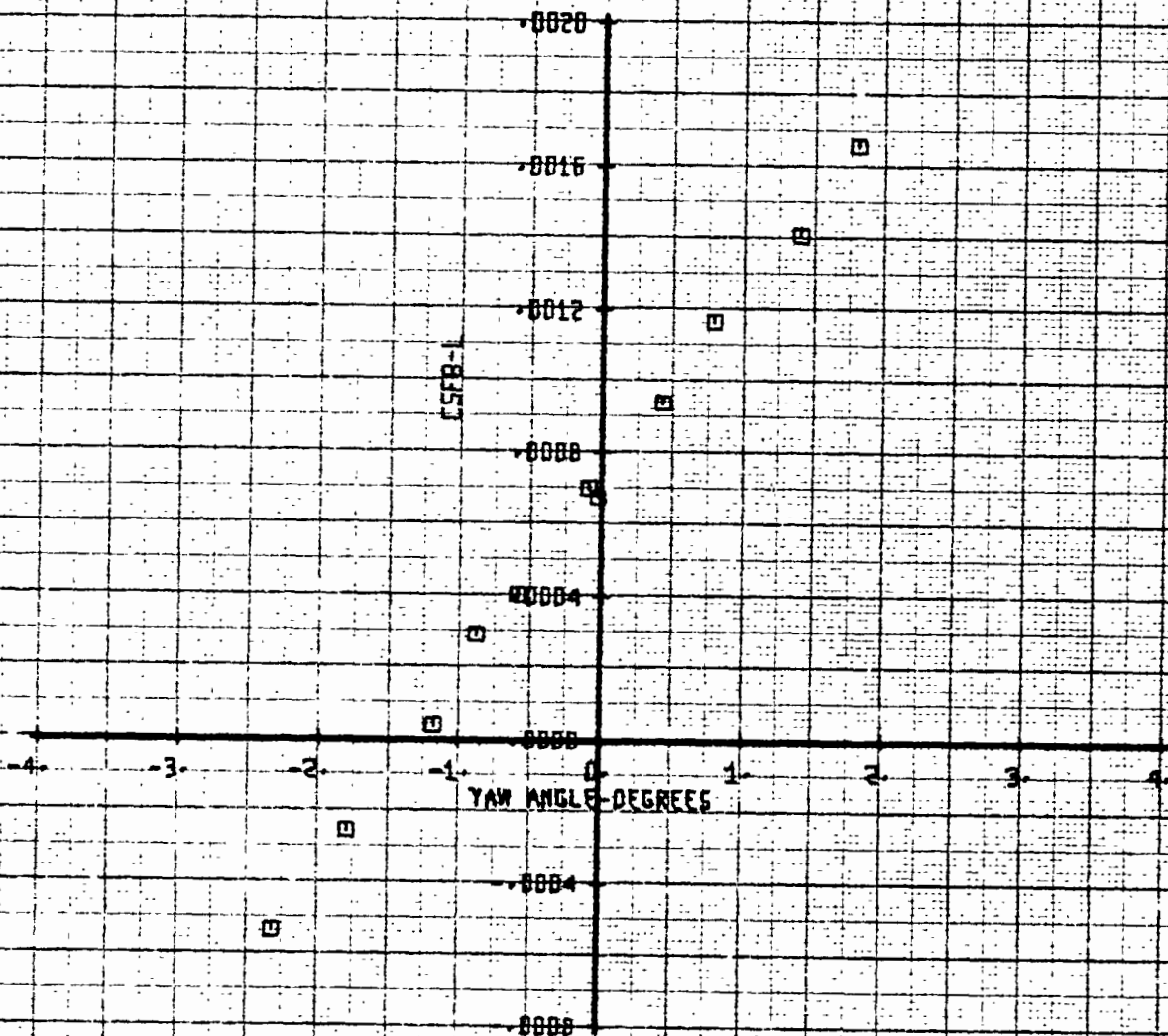


Figure 12-028. Left Rotor Side Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

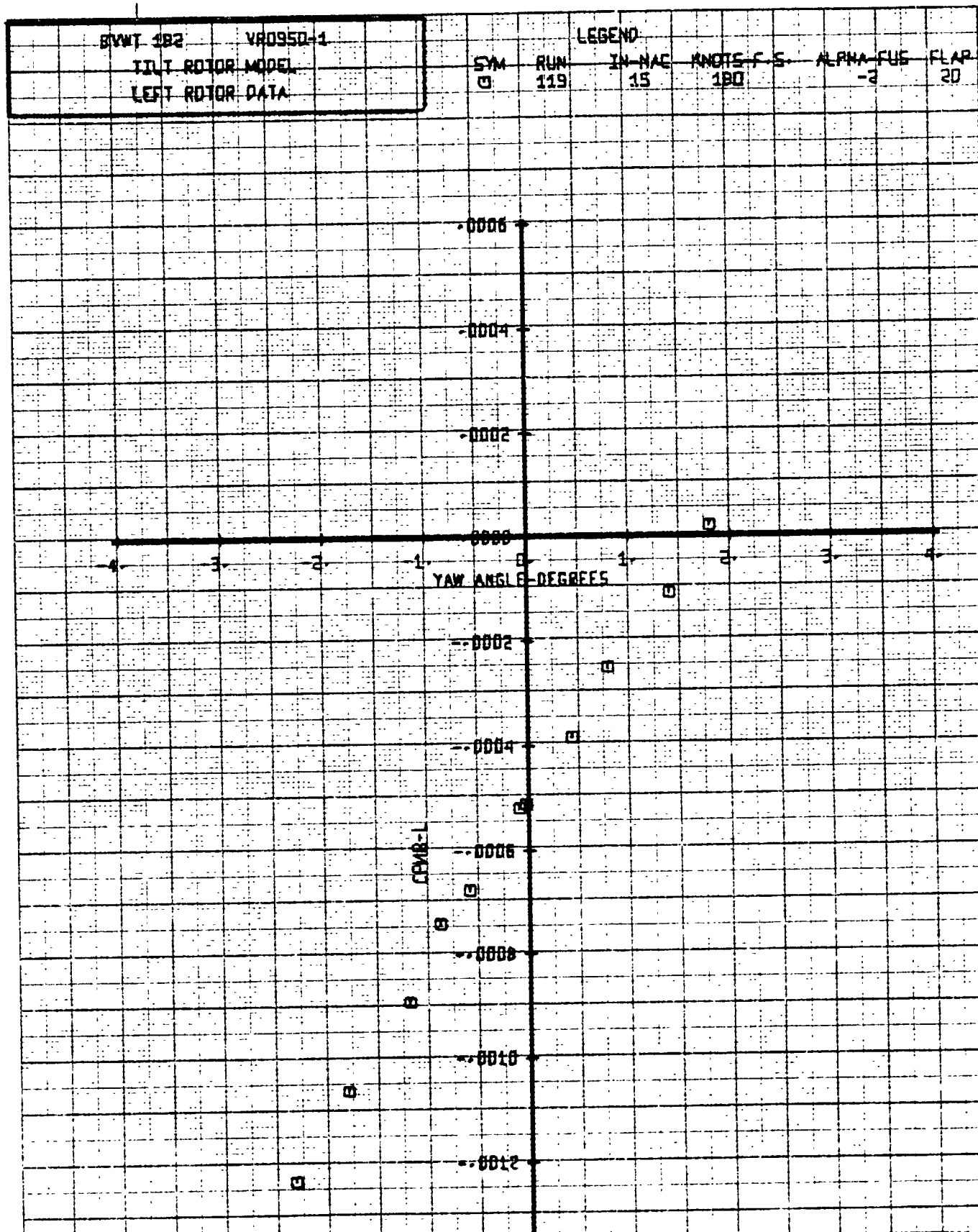
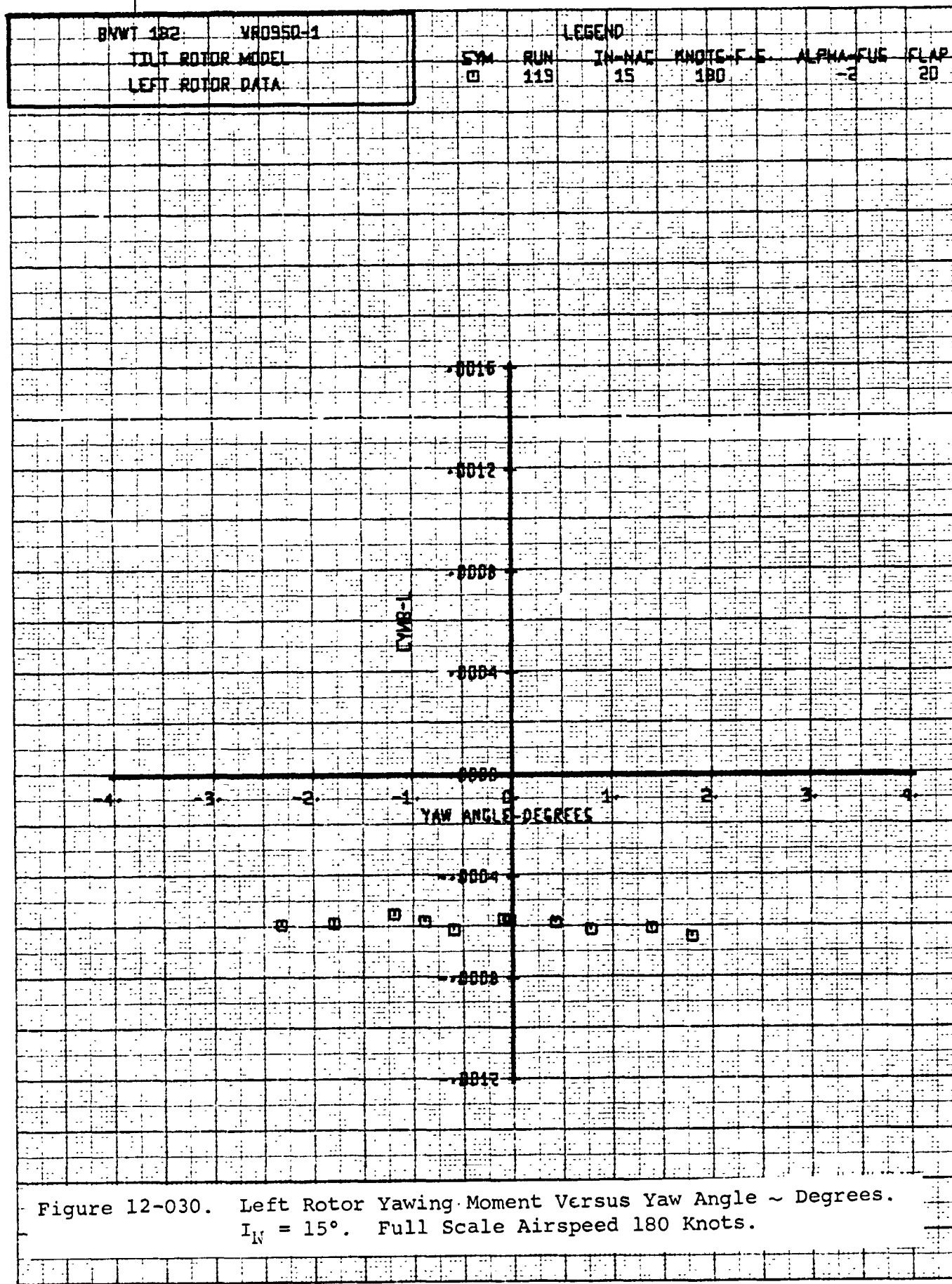
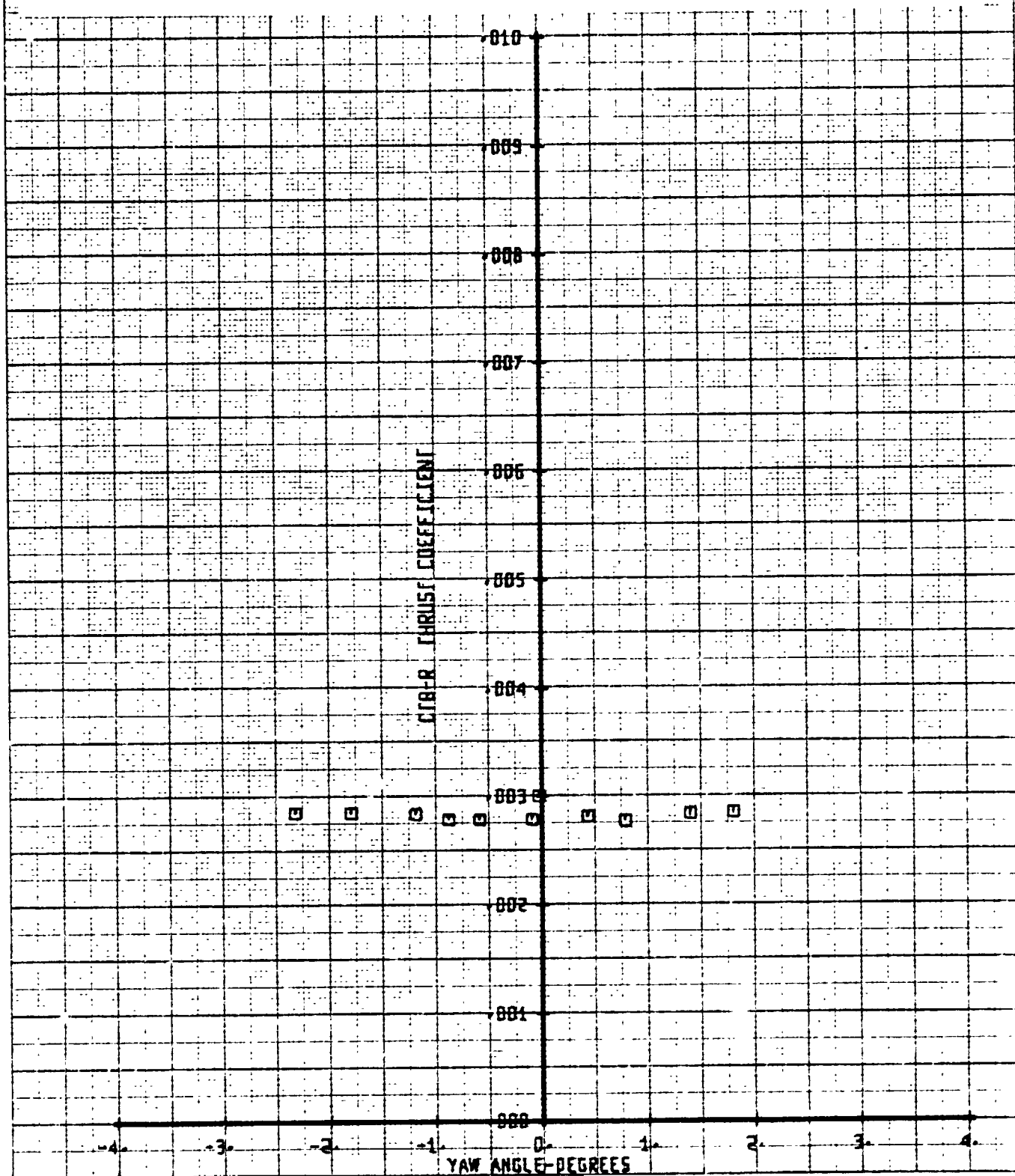


Figure 12-029. Left Rotor Pitching Moment Versus Yaw Angle~
Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



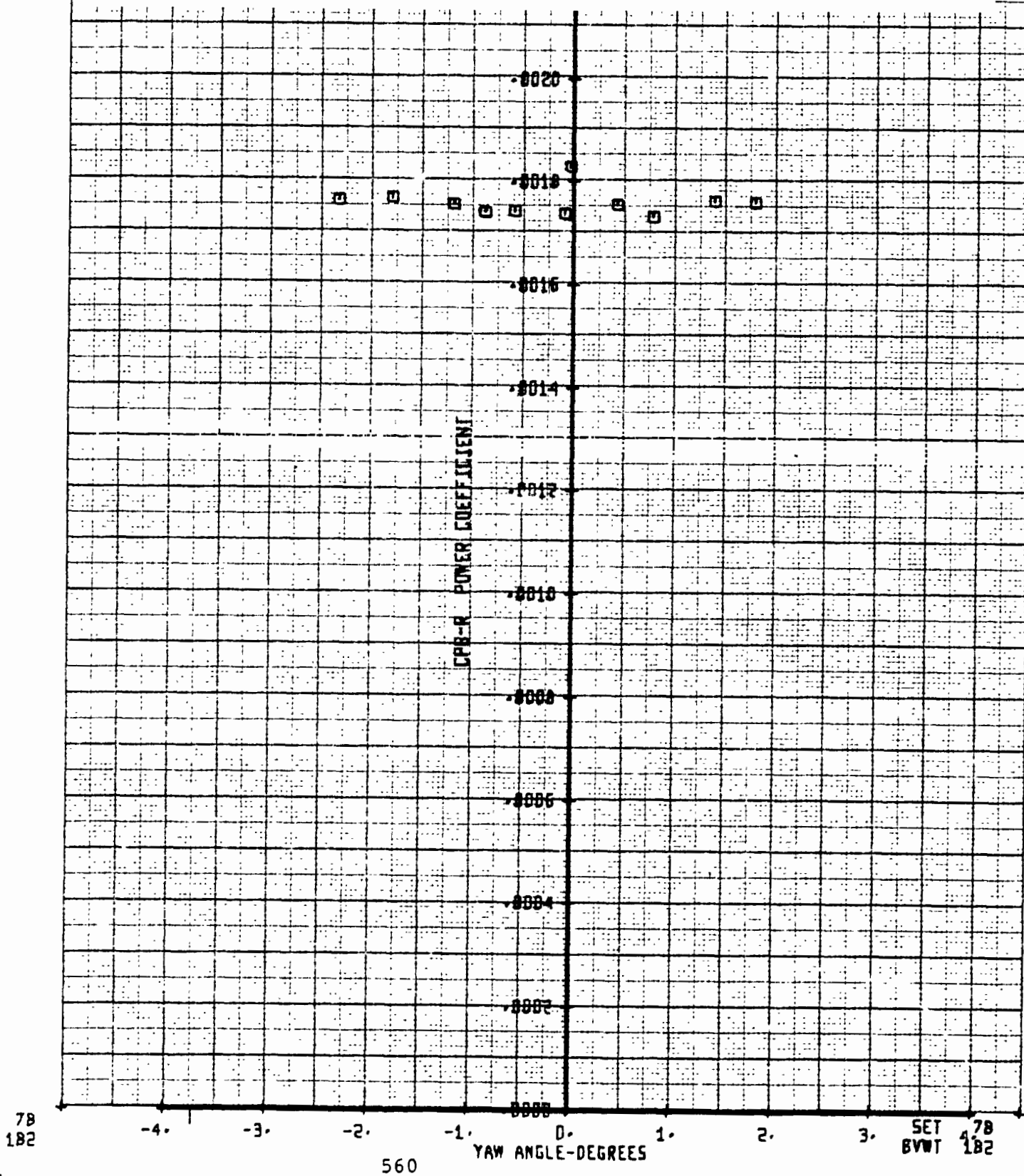
BVWT 182	VR095D-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	119	15	180	-2
						FLAP 20

Figure 12-031. Right Rotor Thrust Coefficient Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182		VR0950-1		LEGEND			
TILT ROTOR MODEL				SYM	RUN	IN-MAC	KNOTS-F-E
RIGHT ROTOR DATA				□	119	15	180
						ALPHA-FUS	FLAP
						-2	20

Figure 12-032. Right Rotor Power Coefficient Versus Yaw Angle~
Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



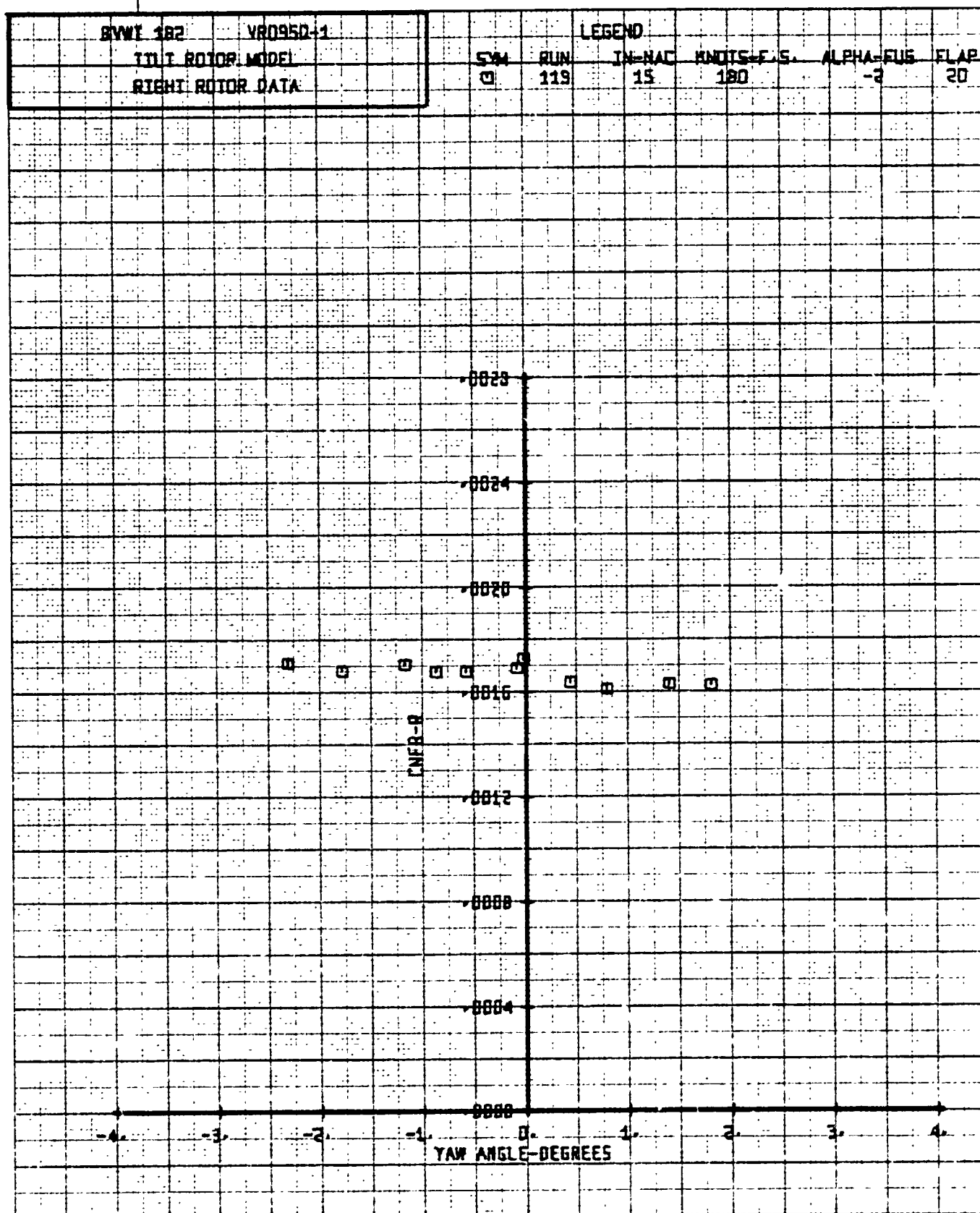
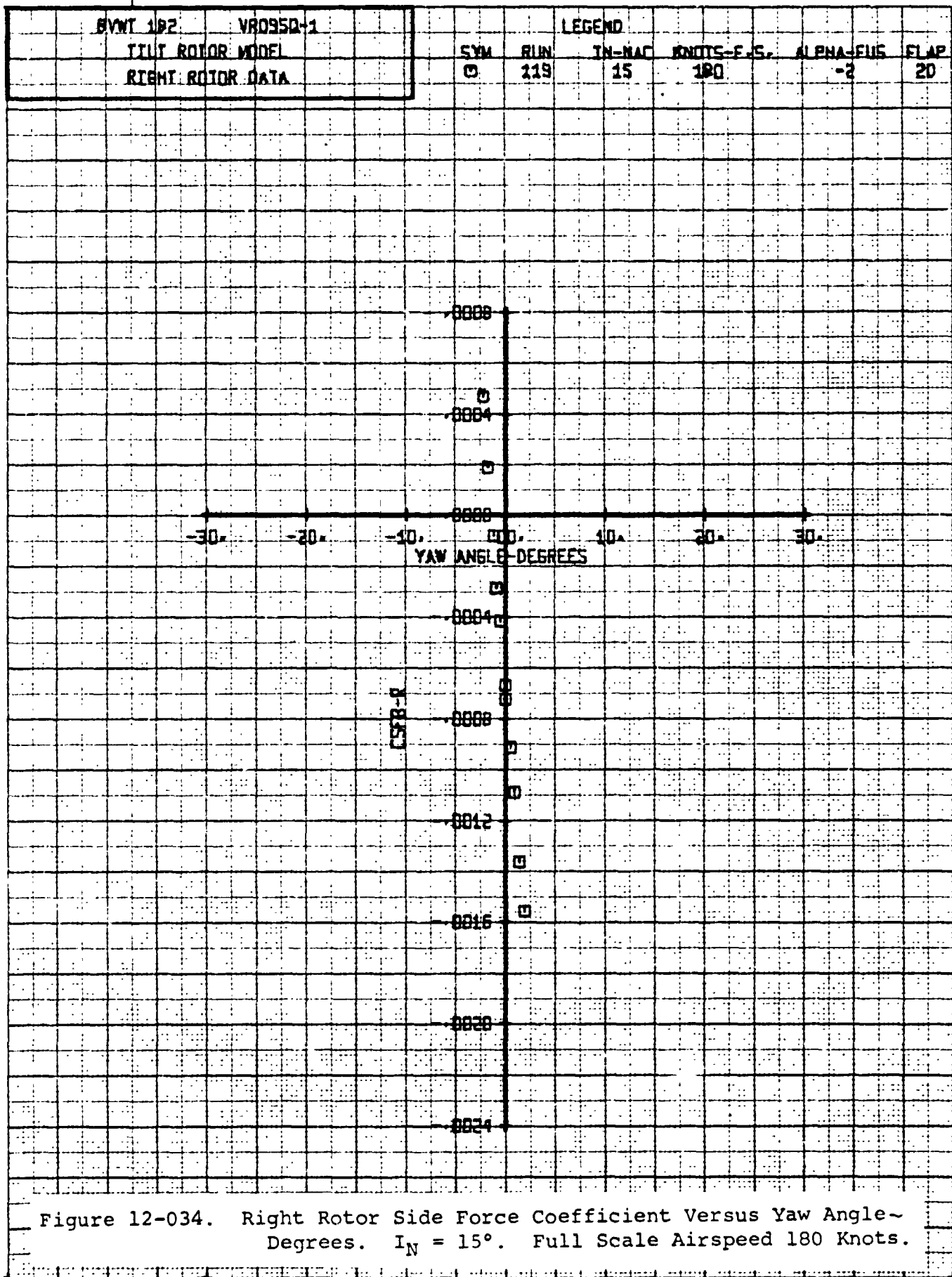


Figure 12-033. Right Rotor Normal Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



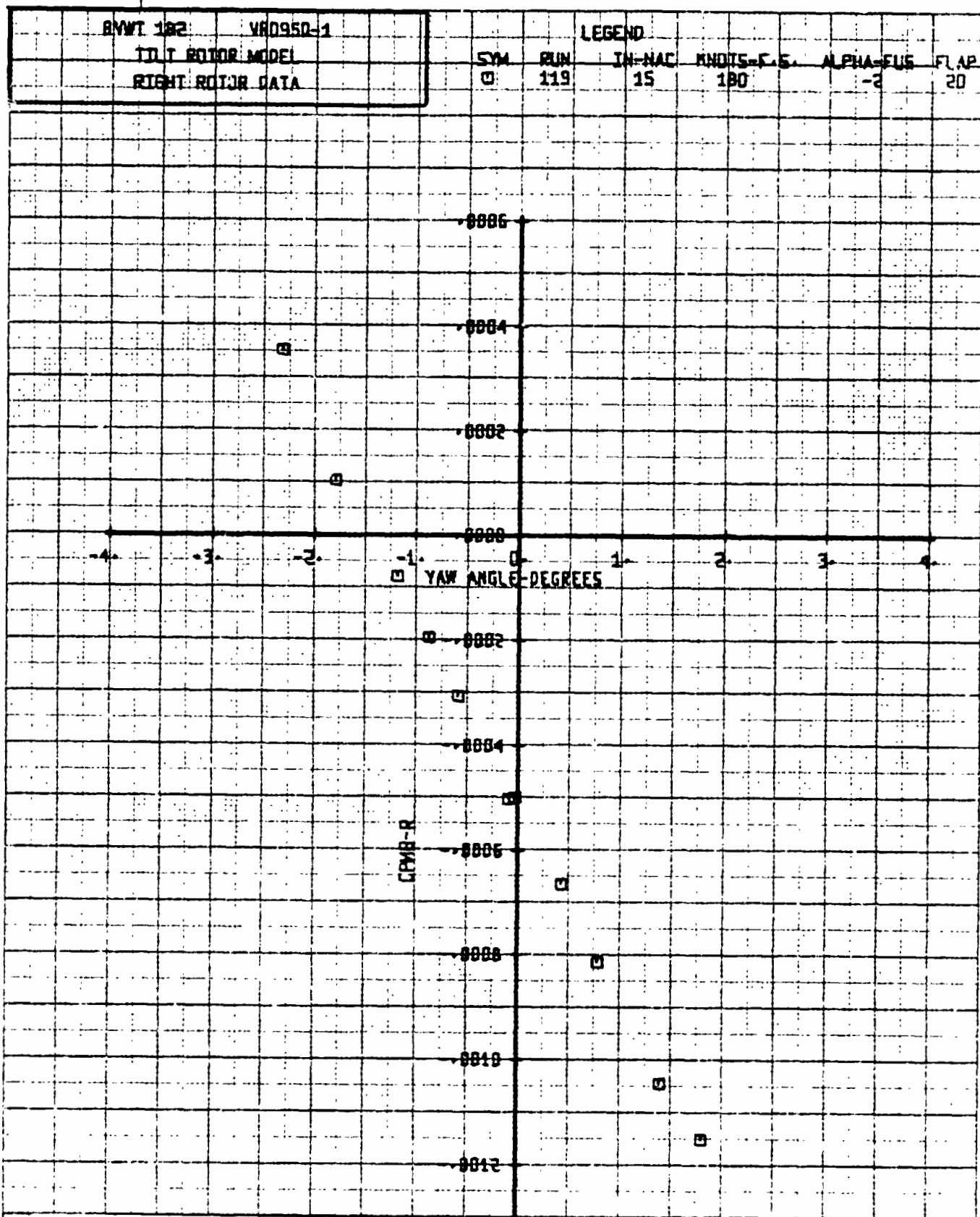


Figure 12-035. Right Rotor Pitching Moment Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

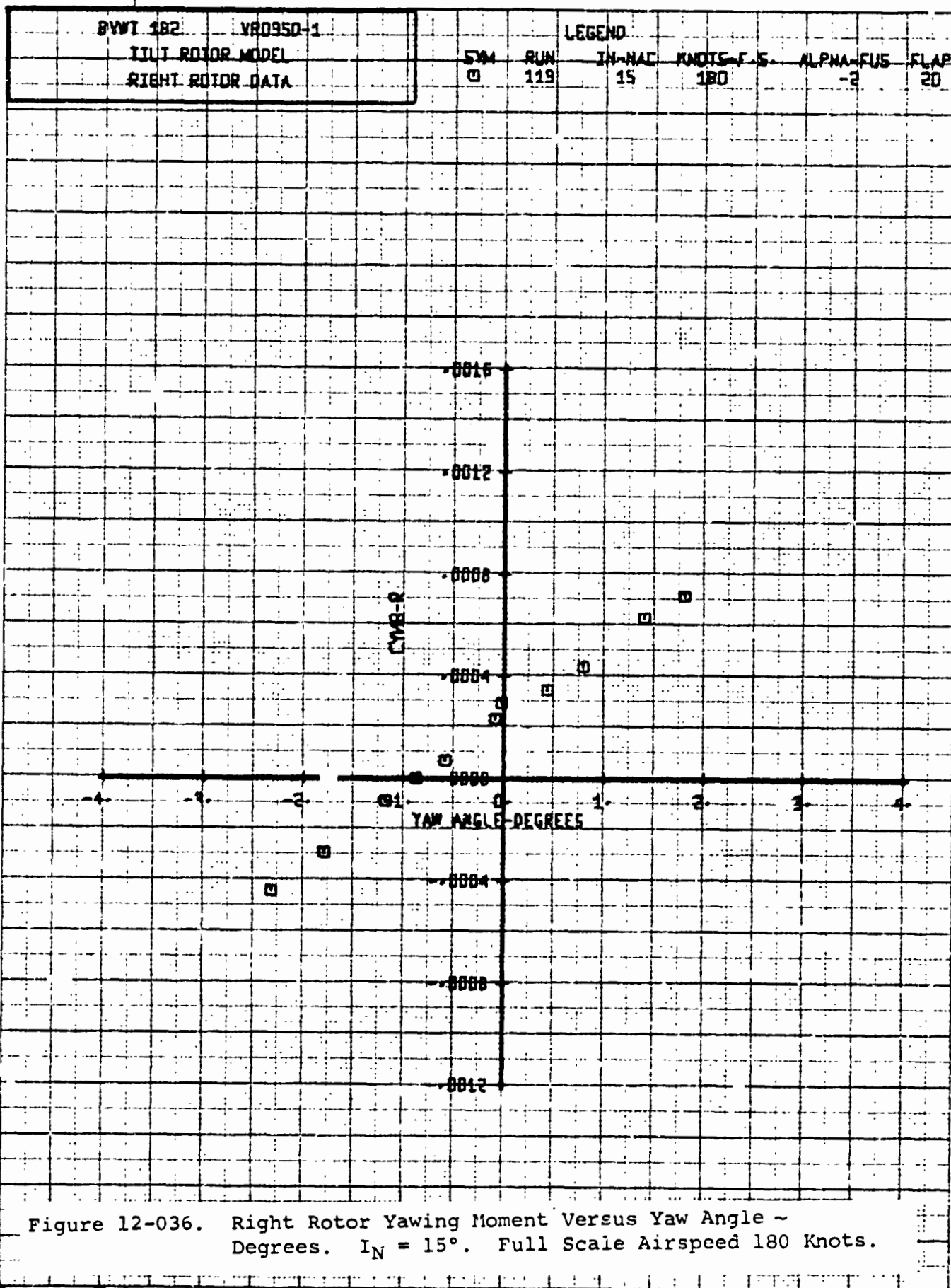
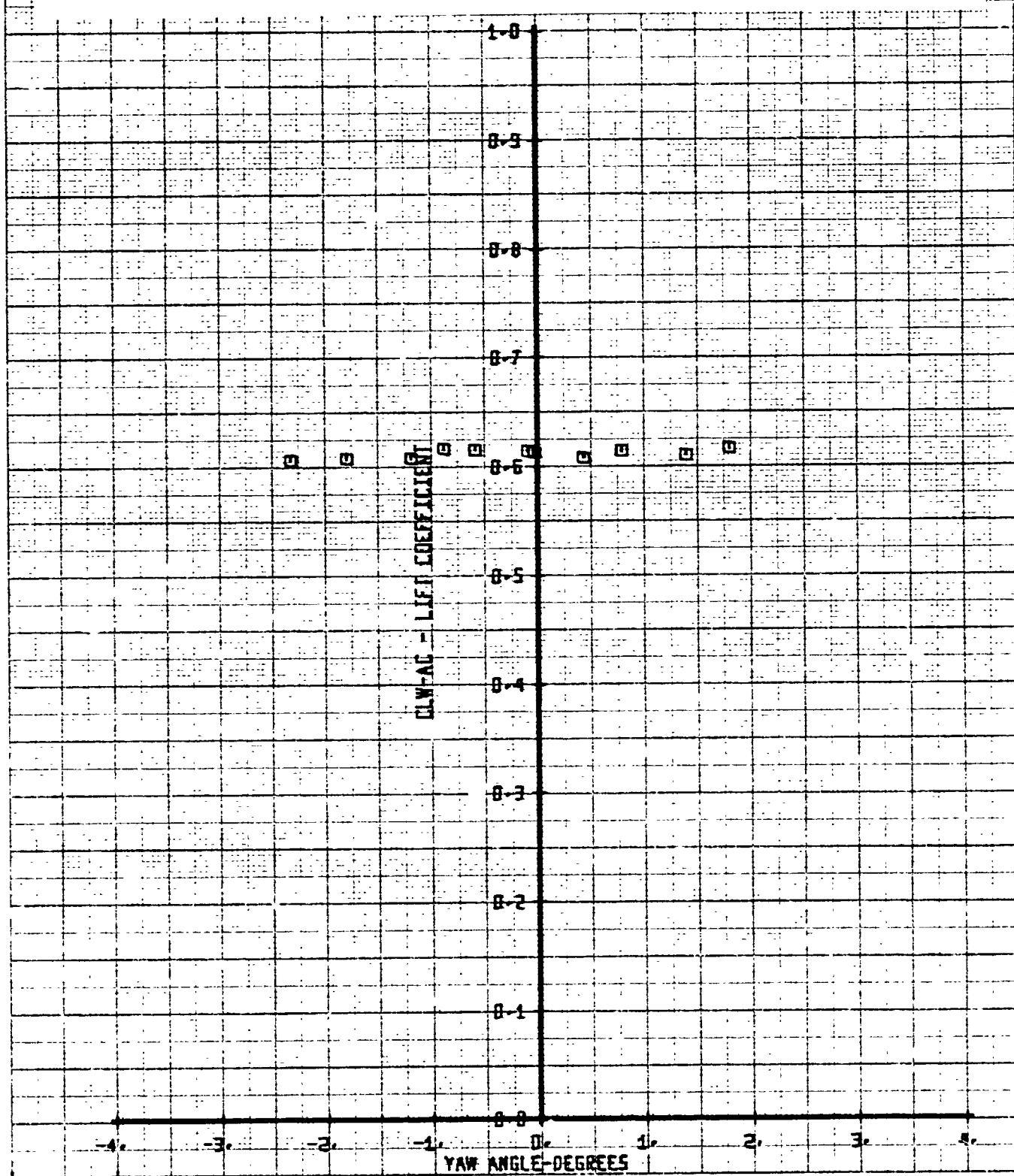


Figure 12-036. Right Rotor Yawing Moment Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

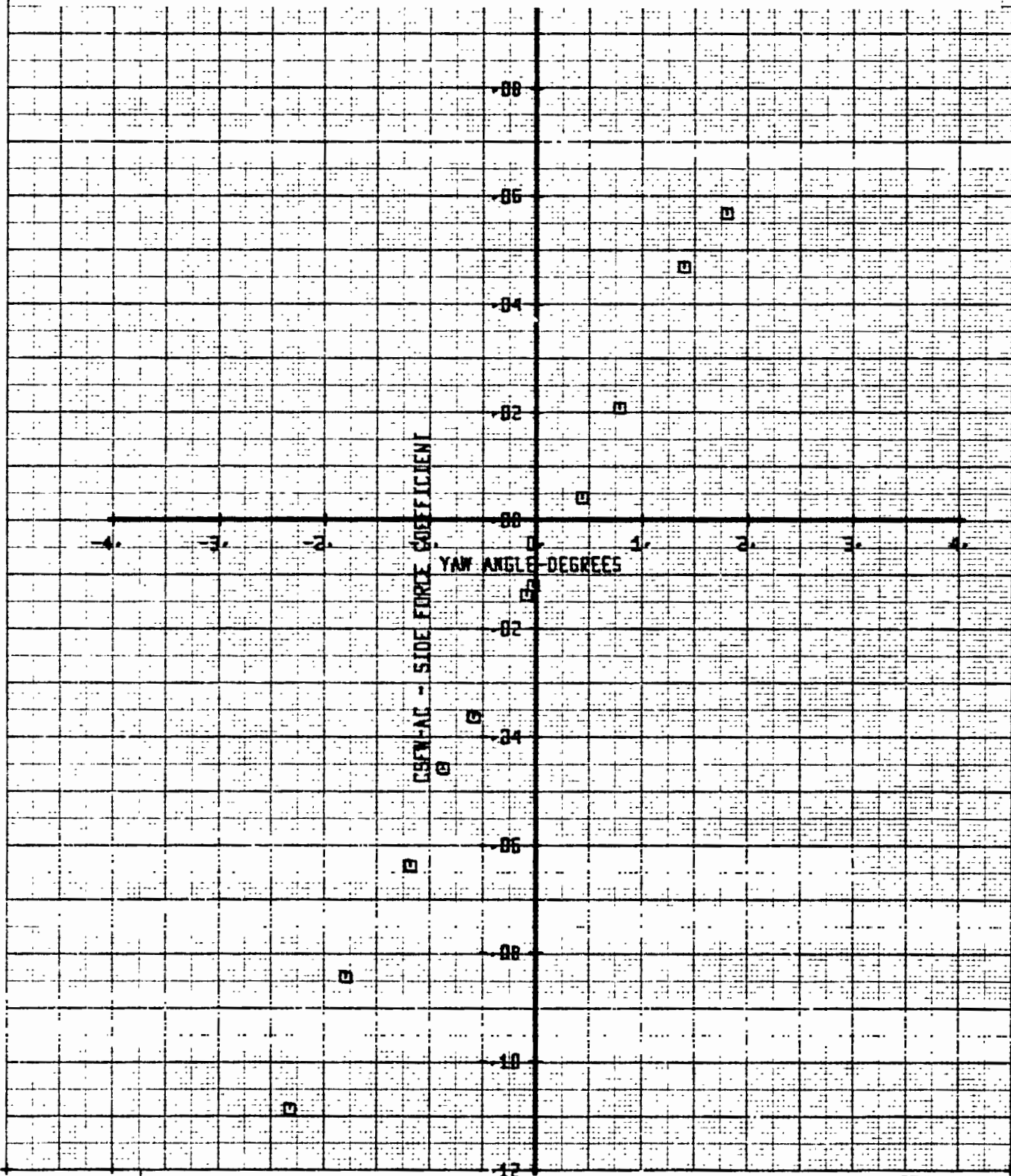
BVWT 182		VRO950-1		LEGEND					
TILT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
				□	119	15	180	-2	20

Figure 12-037. Aircraft Lift Coefficient Versus Yaw Angle ~Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182		VR0950-1		LEGEND					
TILT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
				□	119	15	180	-2	20

Figure 12-038. Aircraft Side Force Coefficient Versus Yaw Angle~
Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



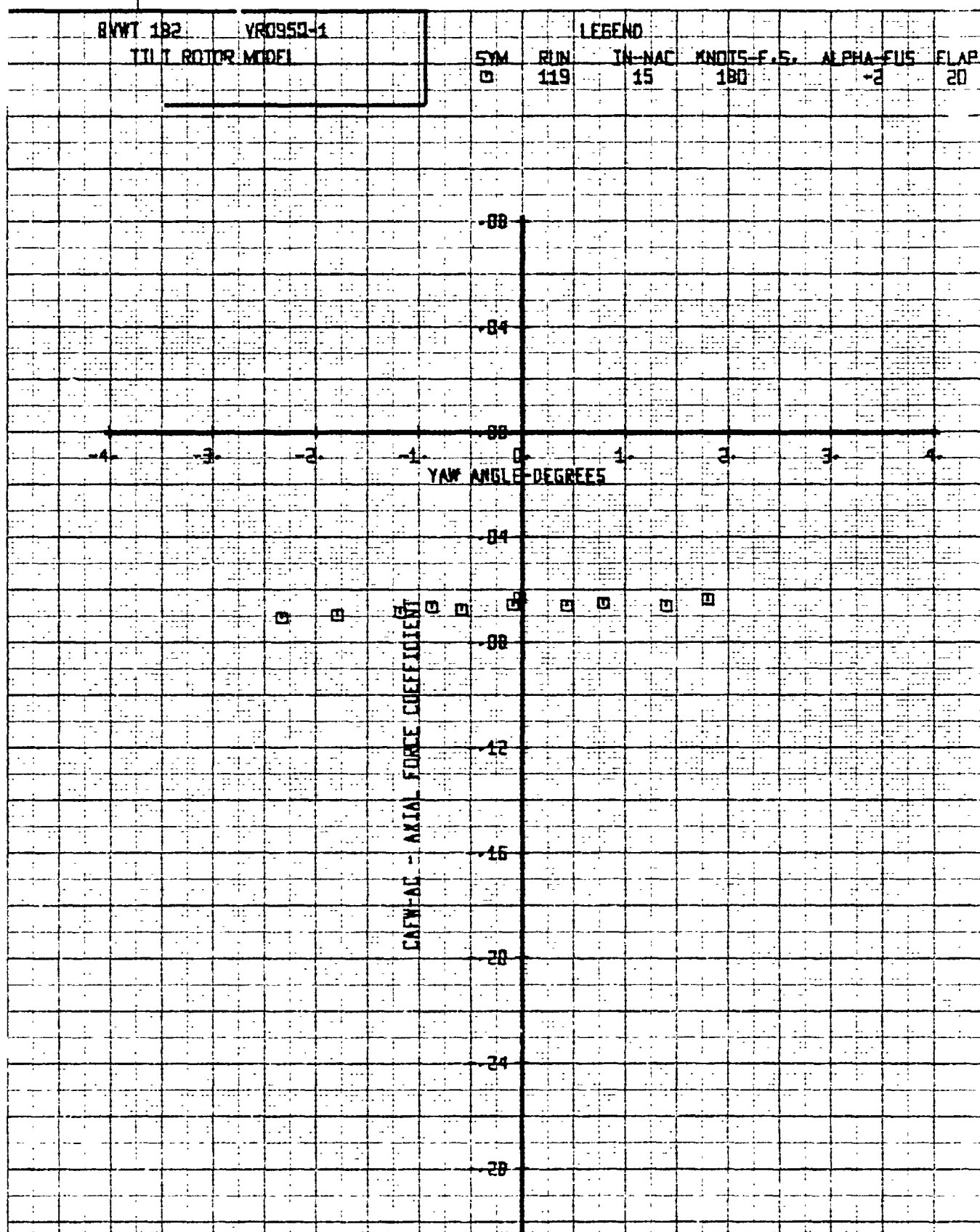


Figure 12-039. Aircraft Axial Force Coefficient Versus Yaw Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

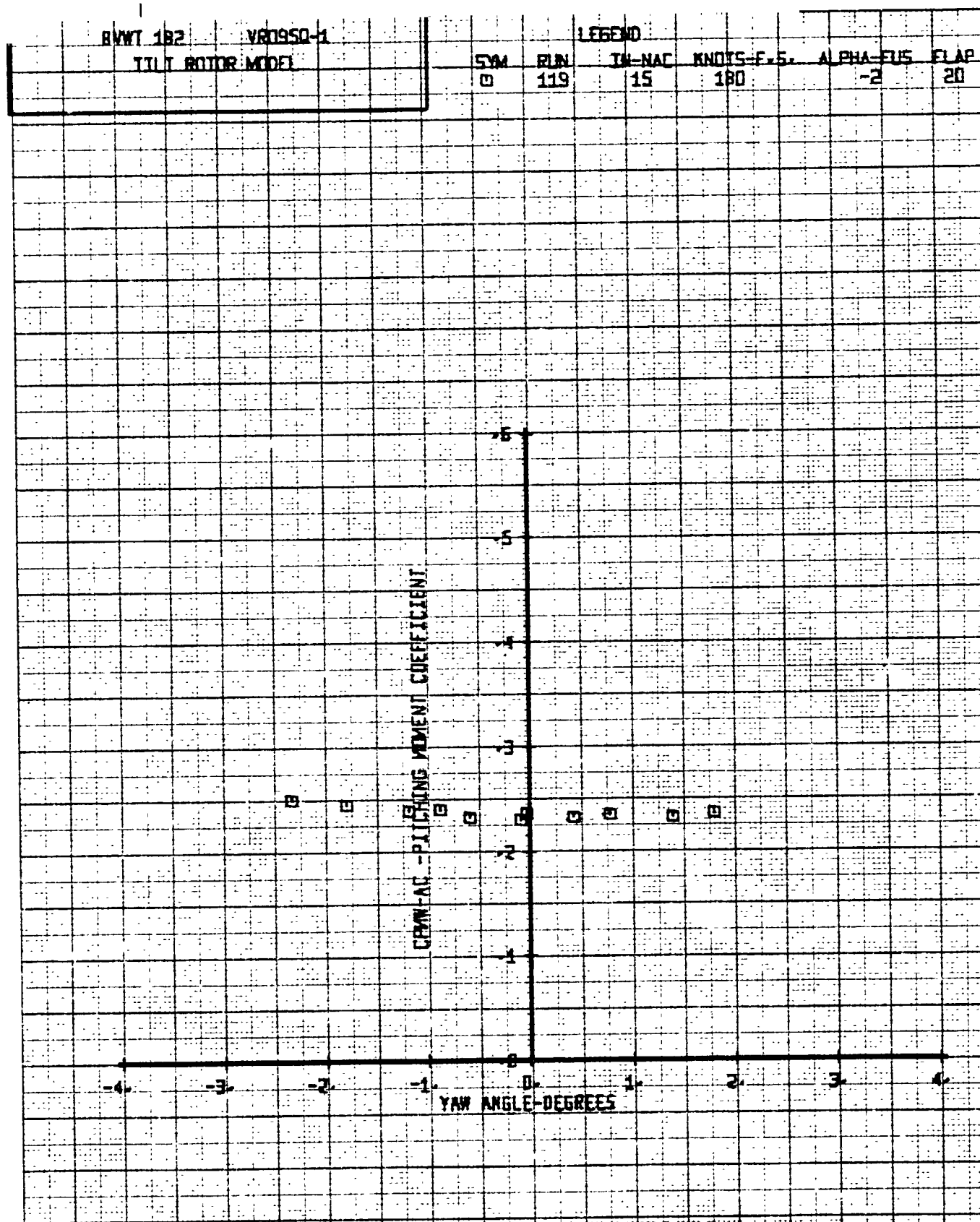


Figure 12-040. Aircraft Pitching Moment Versus Yaw Angle ~ Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

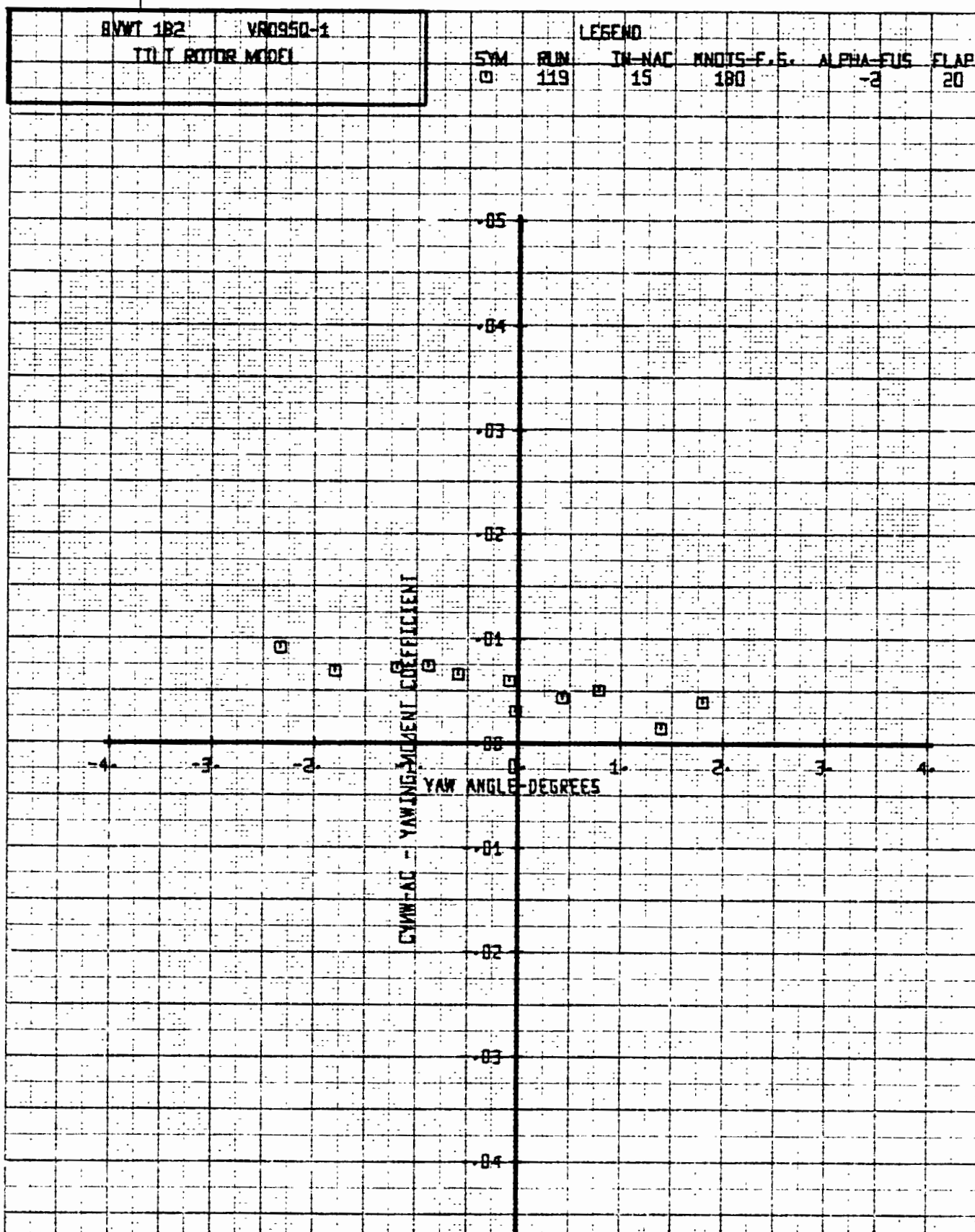


Figure 12-041. Aircraft Yawing Moment Versus Yaw Angle ~Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

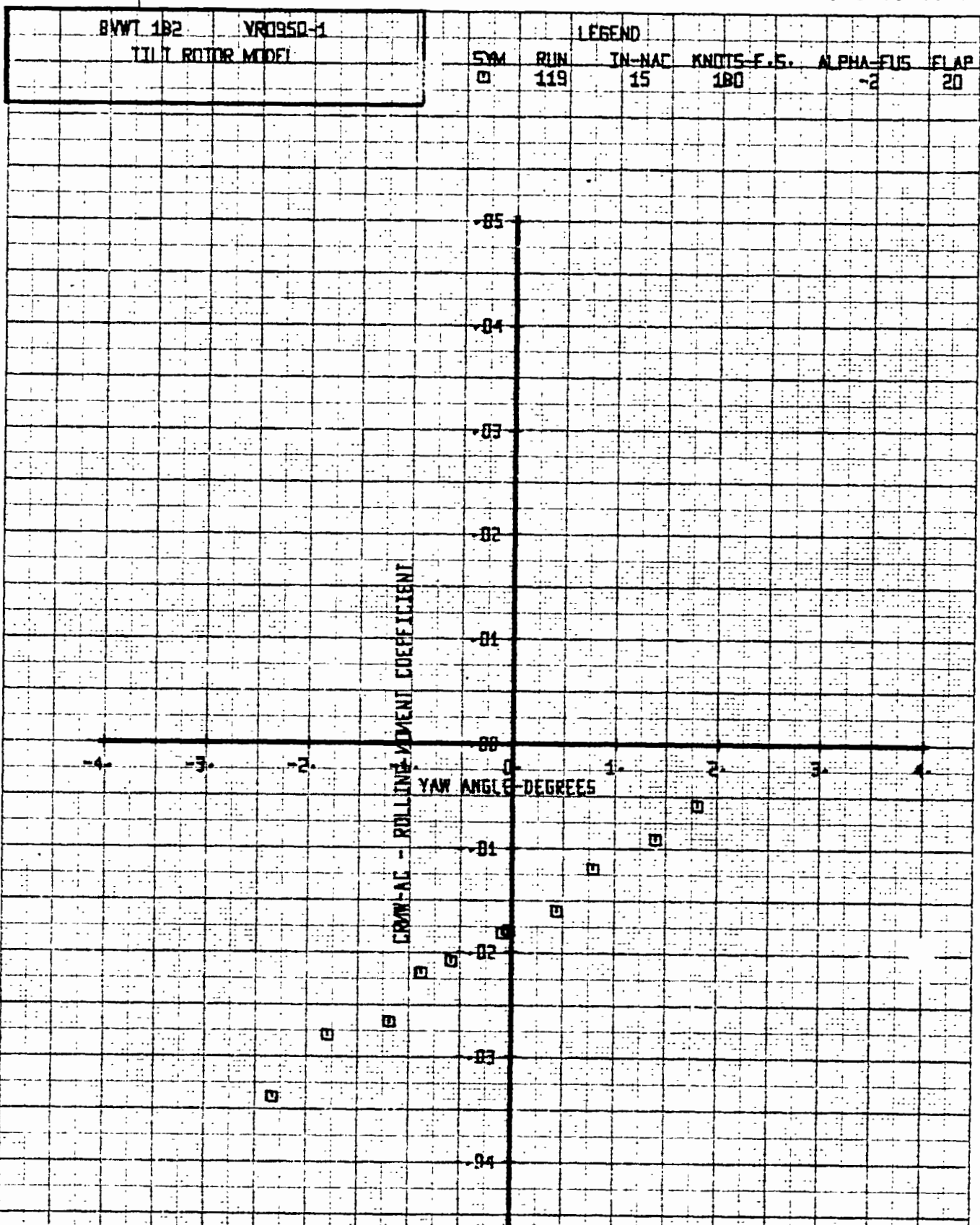


Figure 12-042. Aircraft Rolling Moment Versus Yaw Angle ~Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

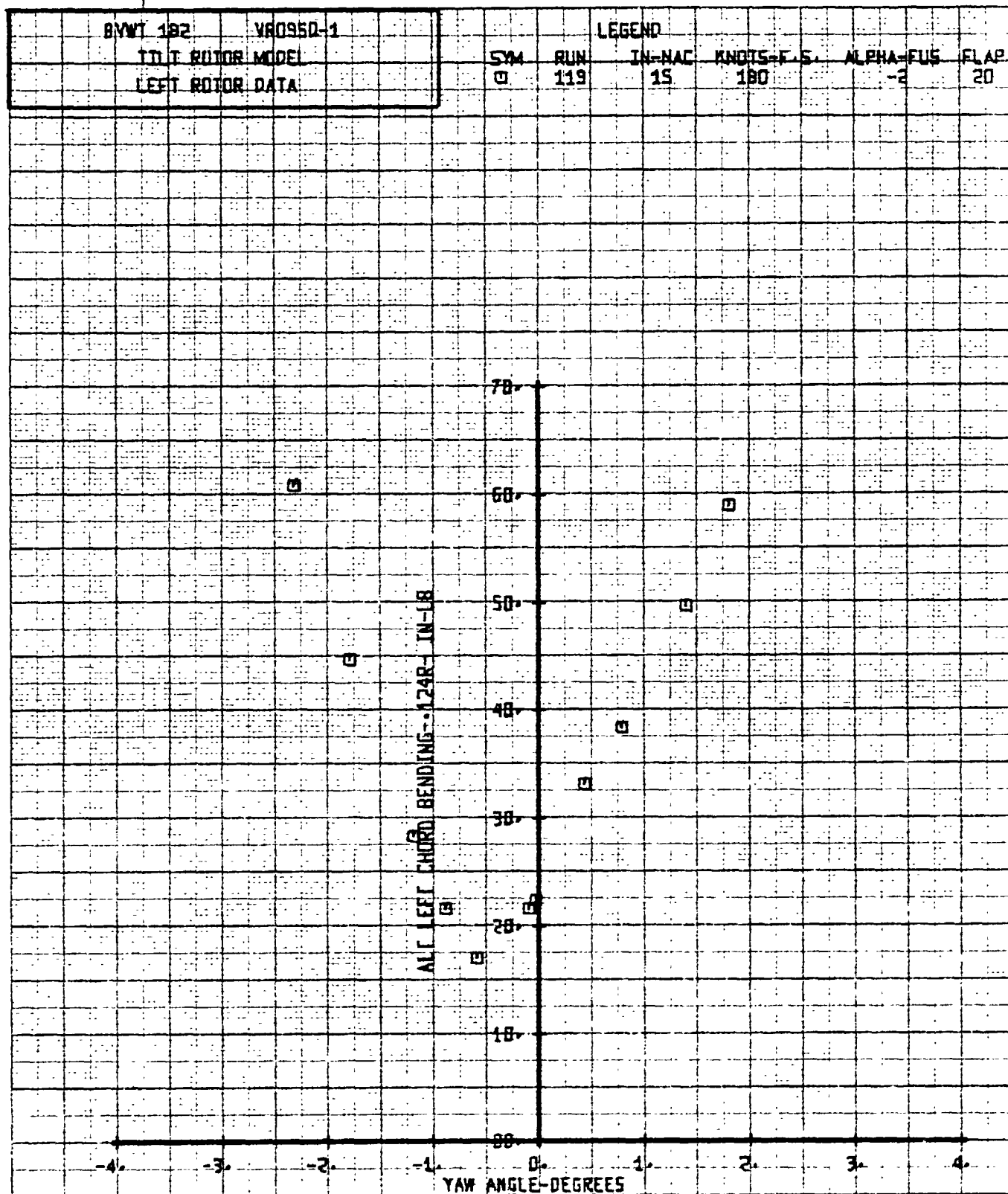
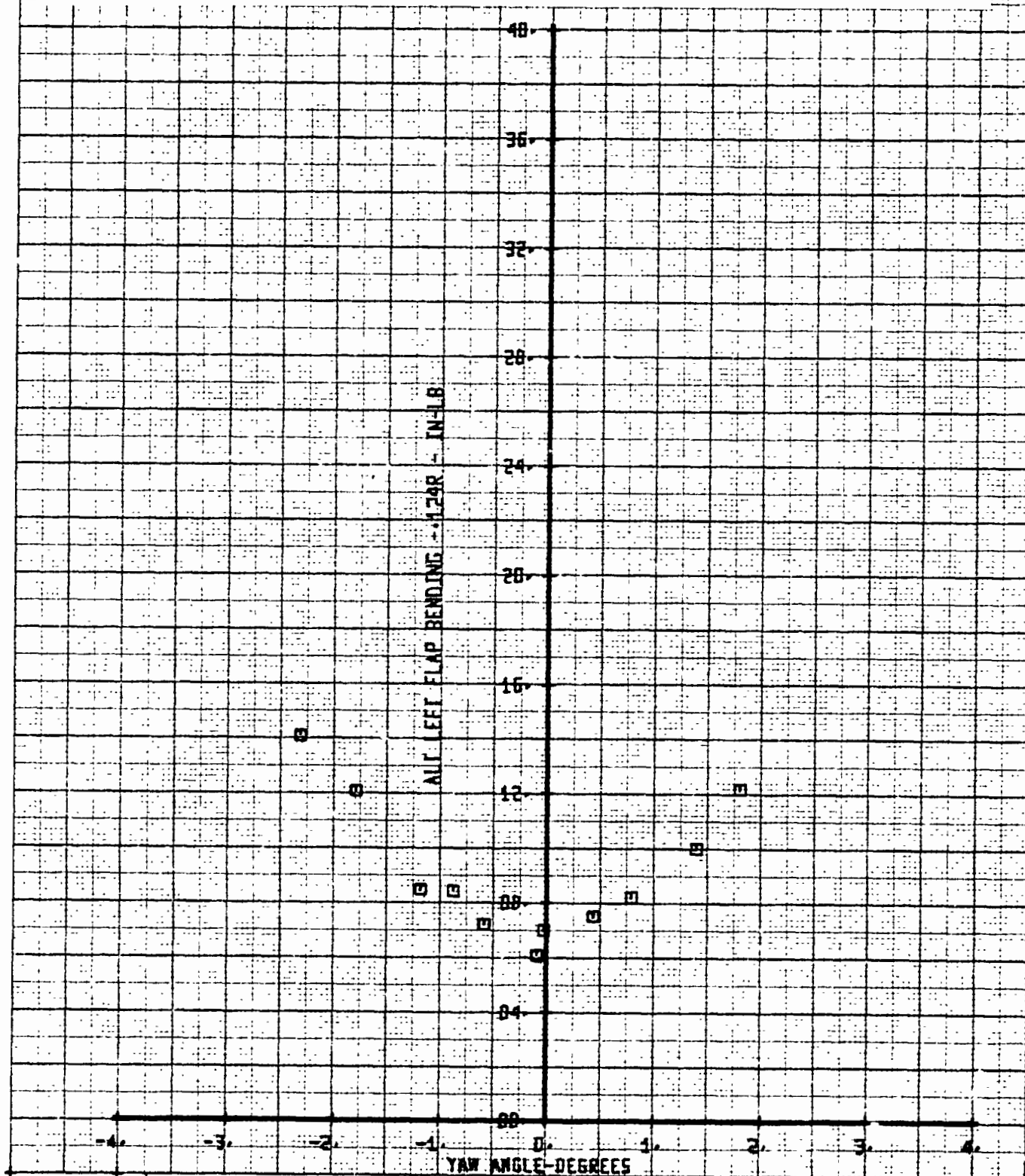


Figure 12-043. Alt. Left Chord Bending Versus Yaw Angle - Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

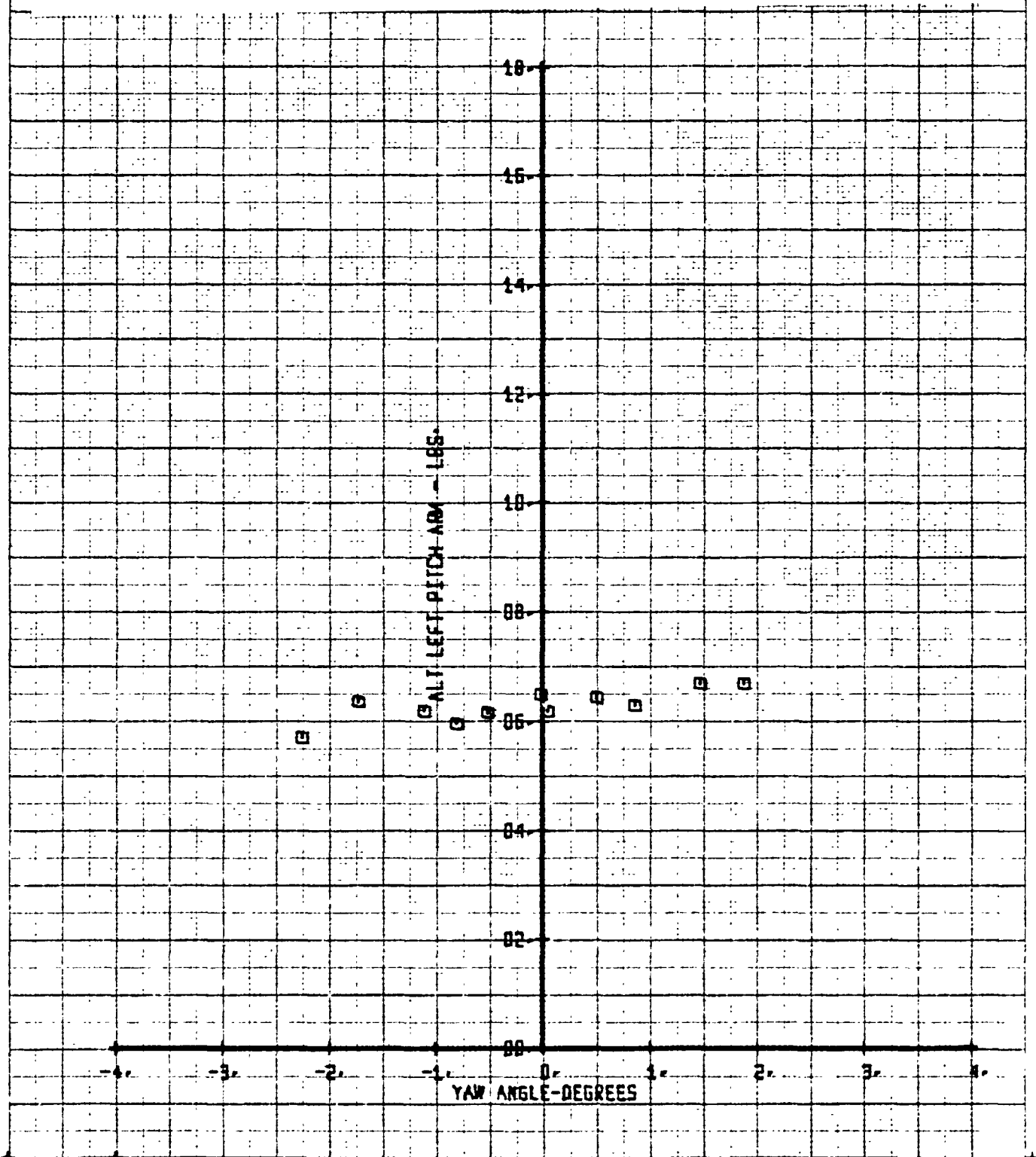
BVWT 182	VR0950-1	LEGEND				
ITIJ ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	119	15	180	-2
						FLAP 20

Figure 12-044. Alt. Left Flap Bending Versus Yaw Angle ~Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182	VR09512-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	119	15	180	-2
						FLAP 20

Figure 12-045. Alt. Left Pitch Link Load Versus Yaw Angle~
Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



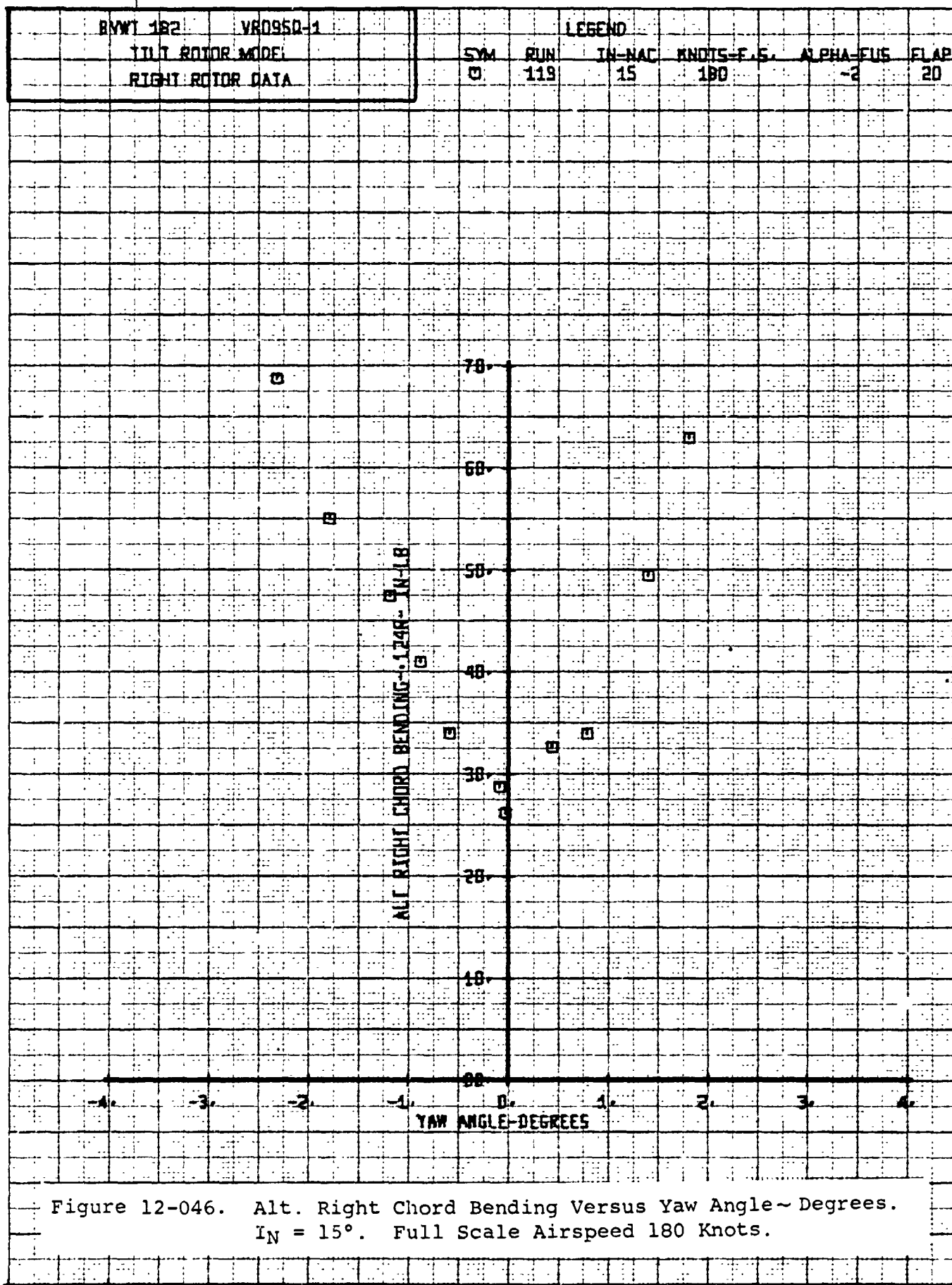
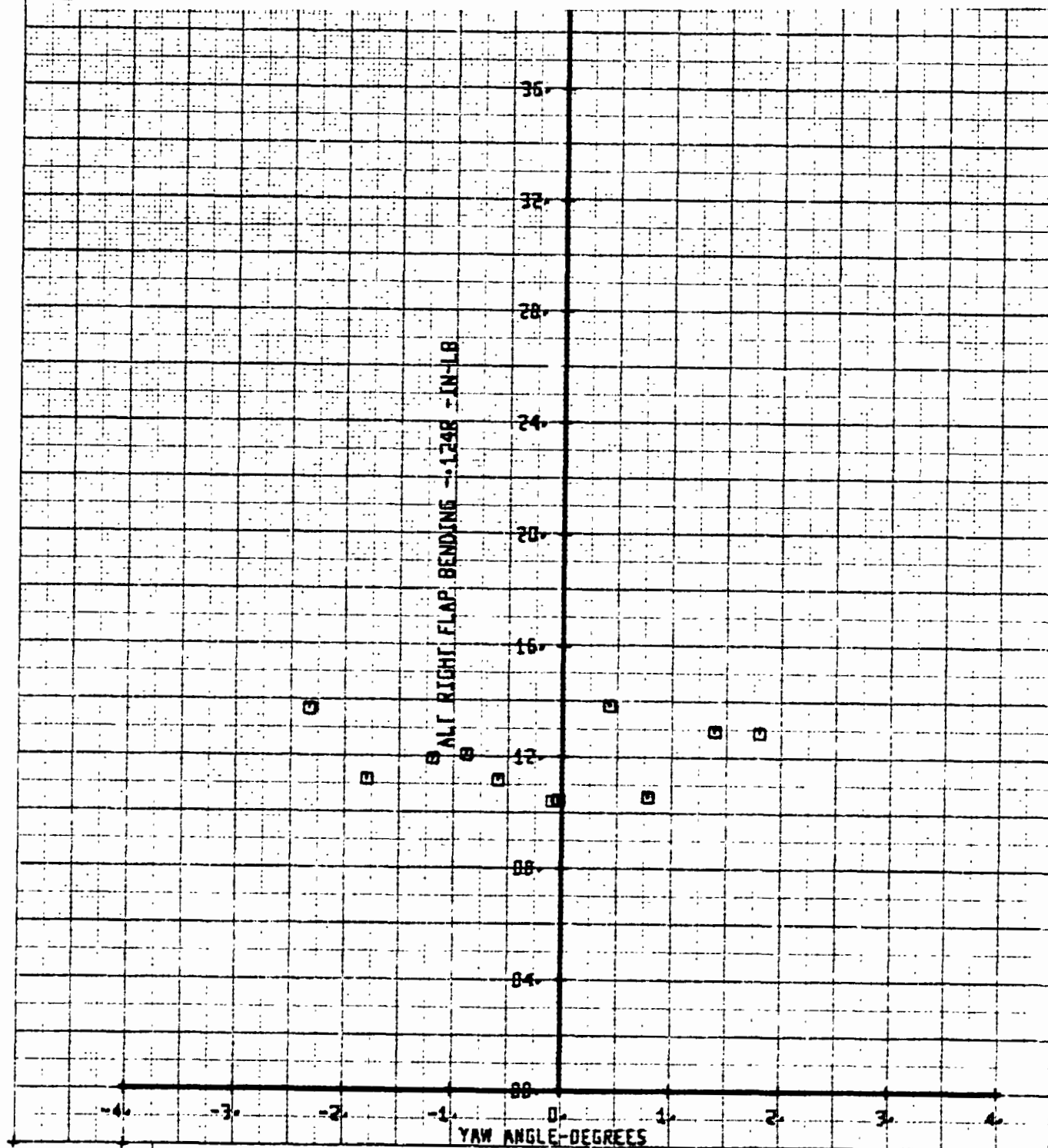


Figure 12-046. Alt. Right Chord Bending Versus Yaw Angle~ Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	119	15	180	-2
						FLAP 20

Figure 12-047. Alt. Right Flap Bending Versus Yaw Angle - Degrees.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



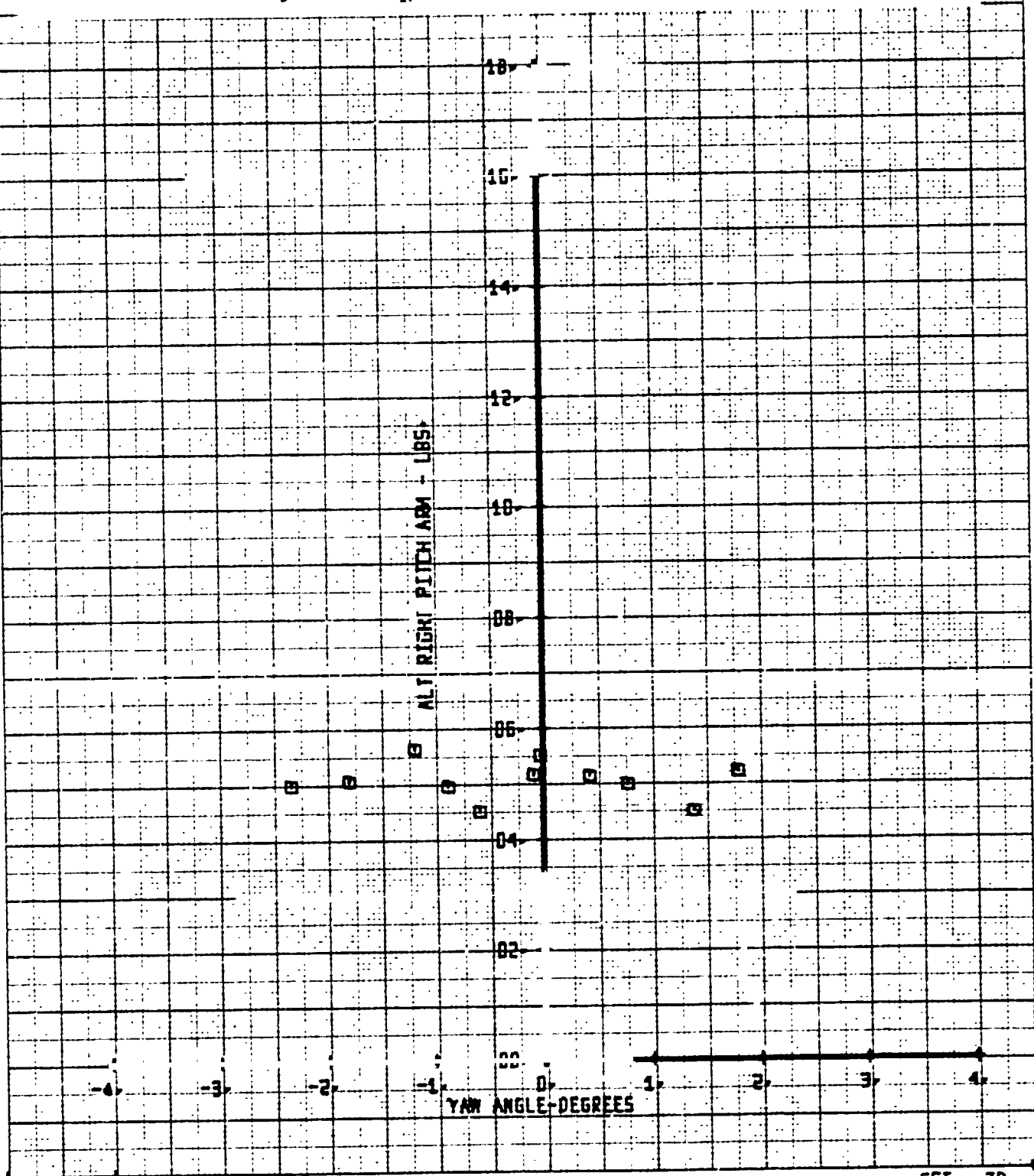
17-015

D238-10000-3

BYWT 182 VR0950-1
 YTH ROTOR MODFL
 RIGHT ROTOR DATA

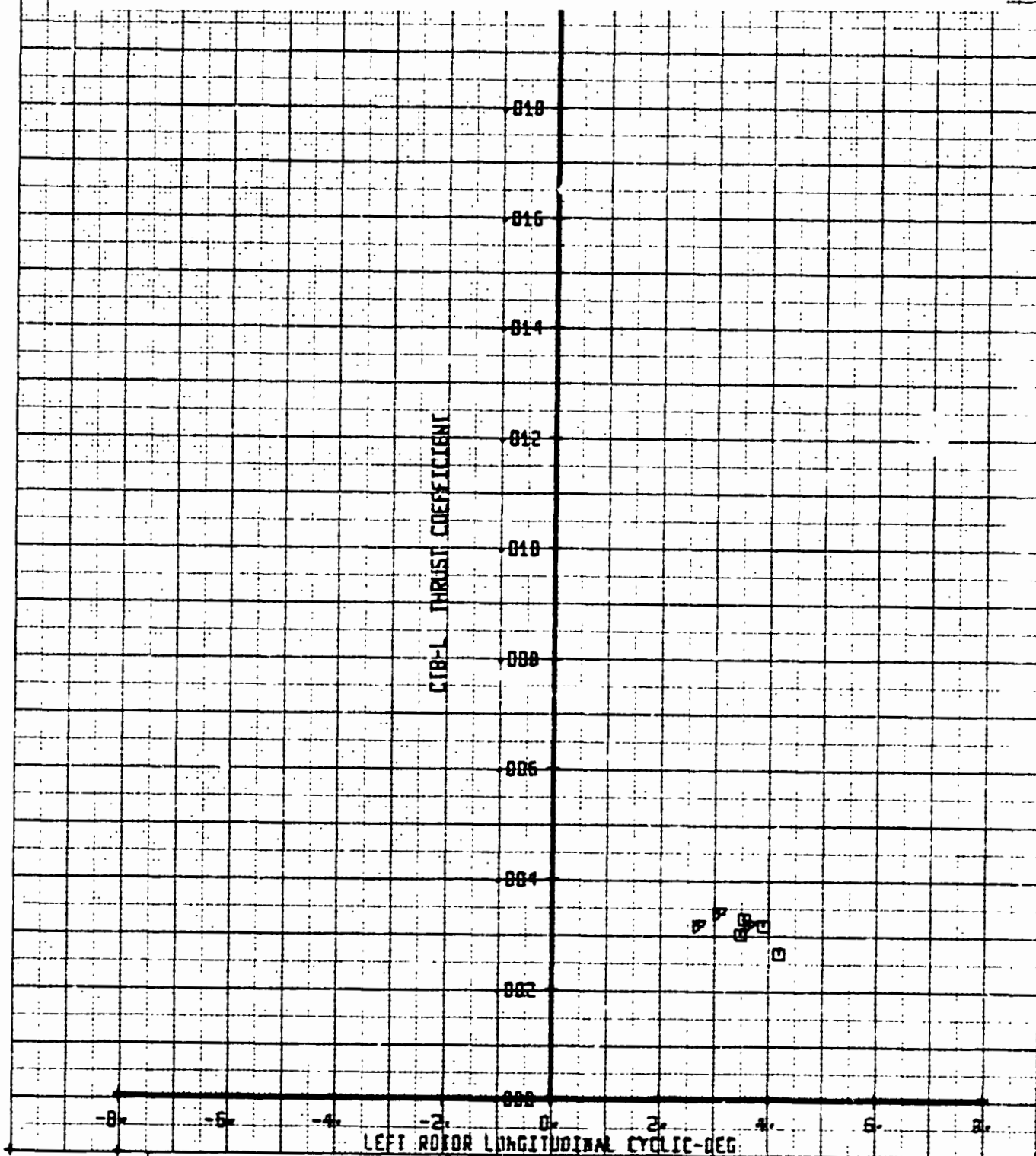
LEGEND					
SY:	RUN	IN-NAC	KNOTS-F.S.	ALPHA- \pm US	FLAP
0	119	15	180	-2	20

Figure 12-048. Alt. Right Pitch Link Load Versus Yaw Angle - Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BYWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	BLIN	IN-MAC	KNOTS--F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	121	15	180	-2
		▽	122			20

Figure 12-049. Left Rotor Thrust Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



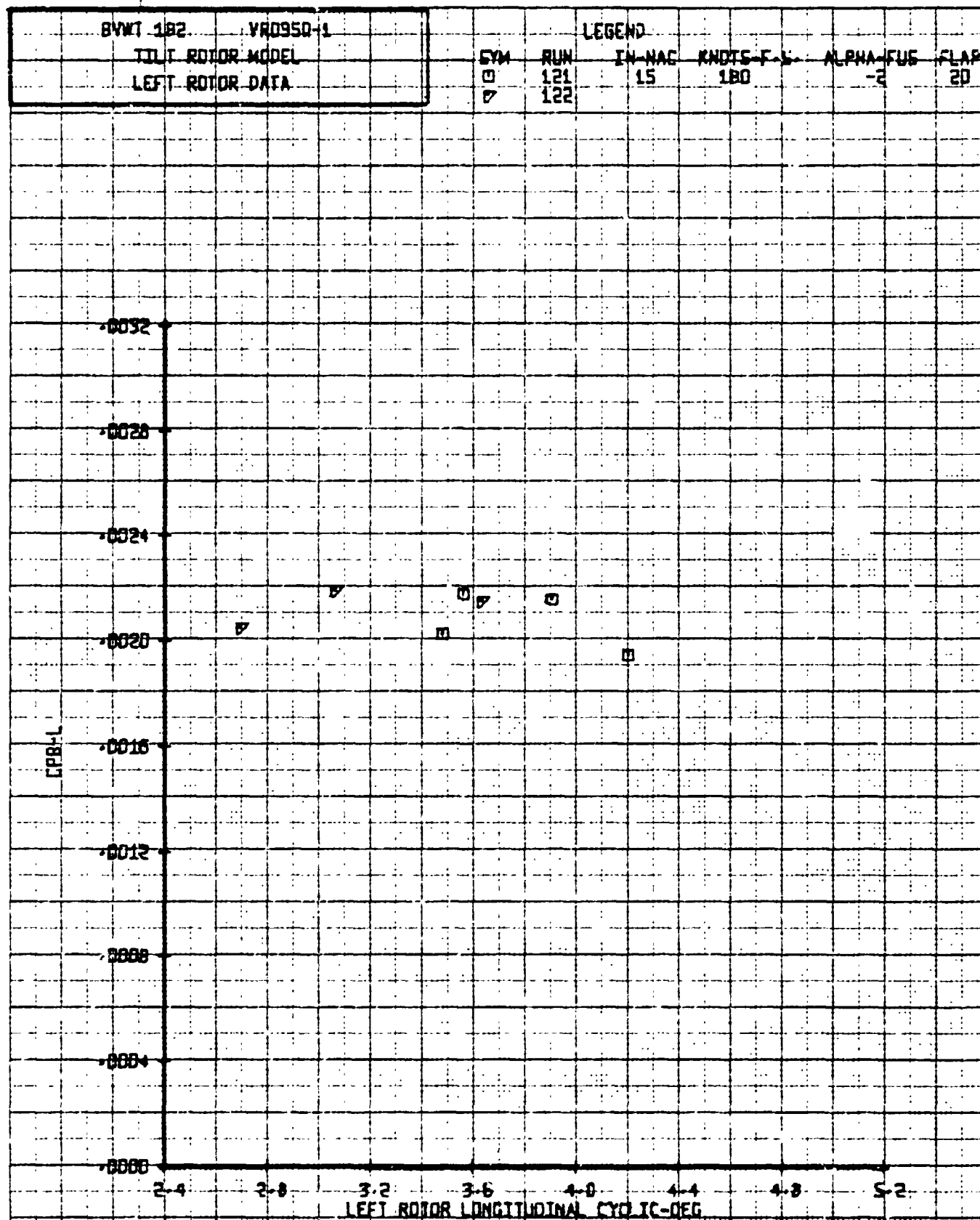


Figure 12-050. Left Rotor Power Coefficient Versus Left Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

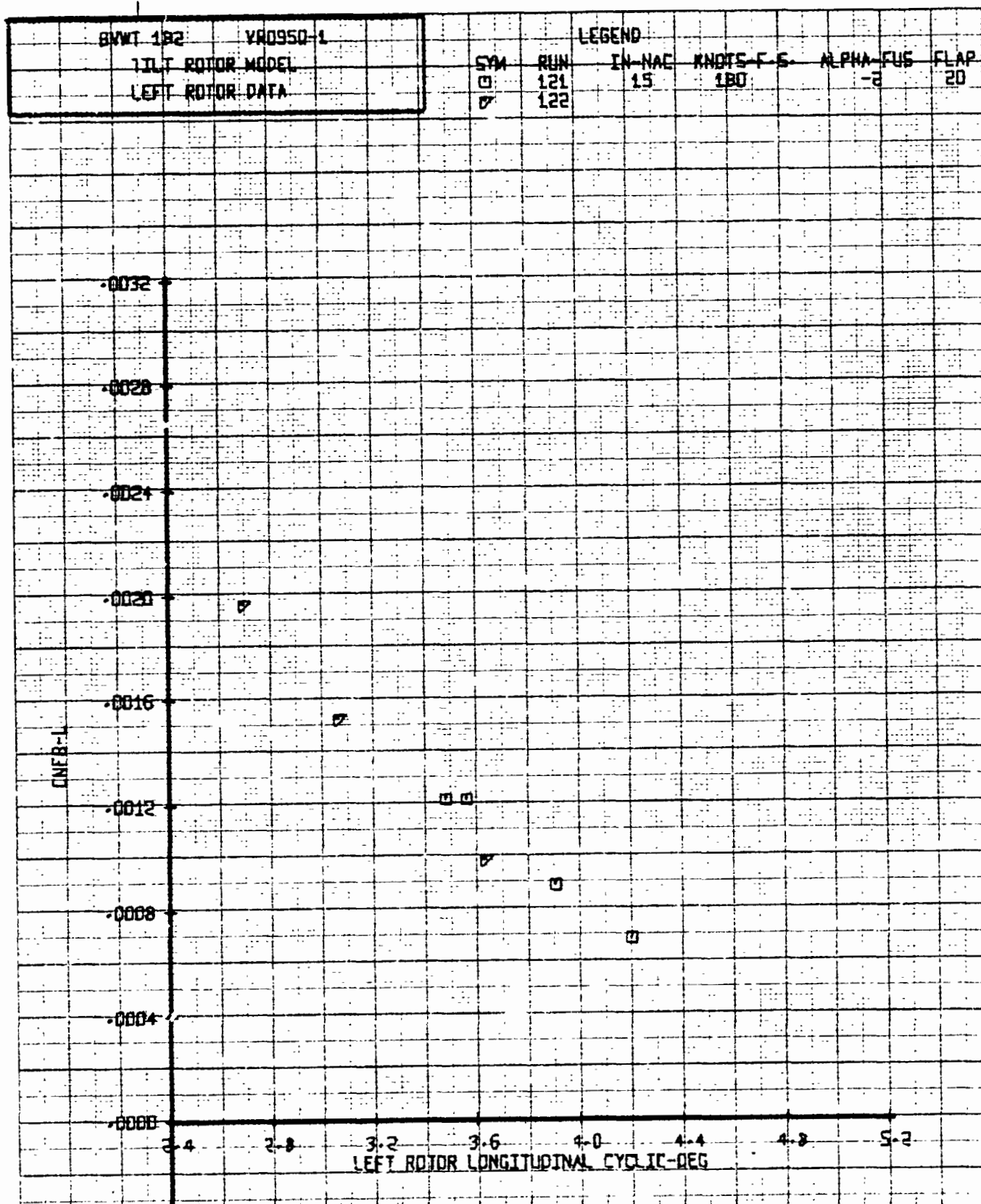
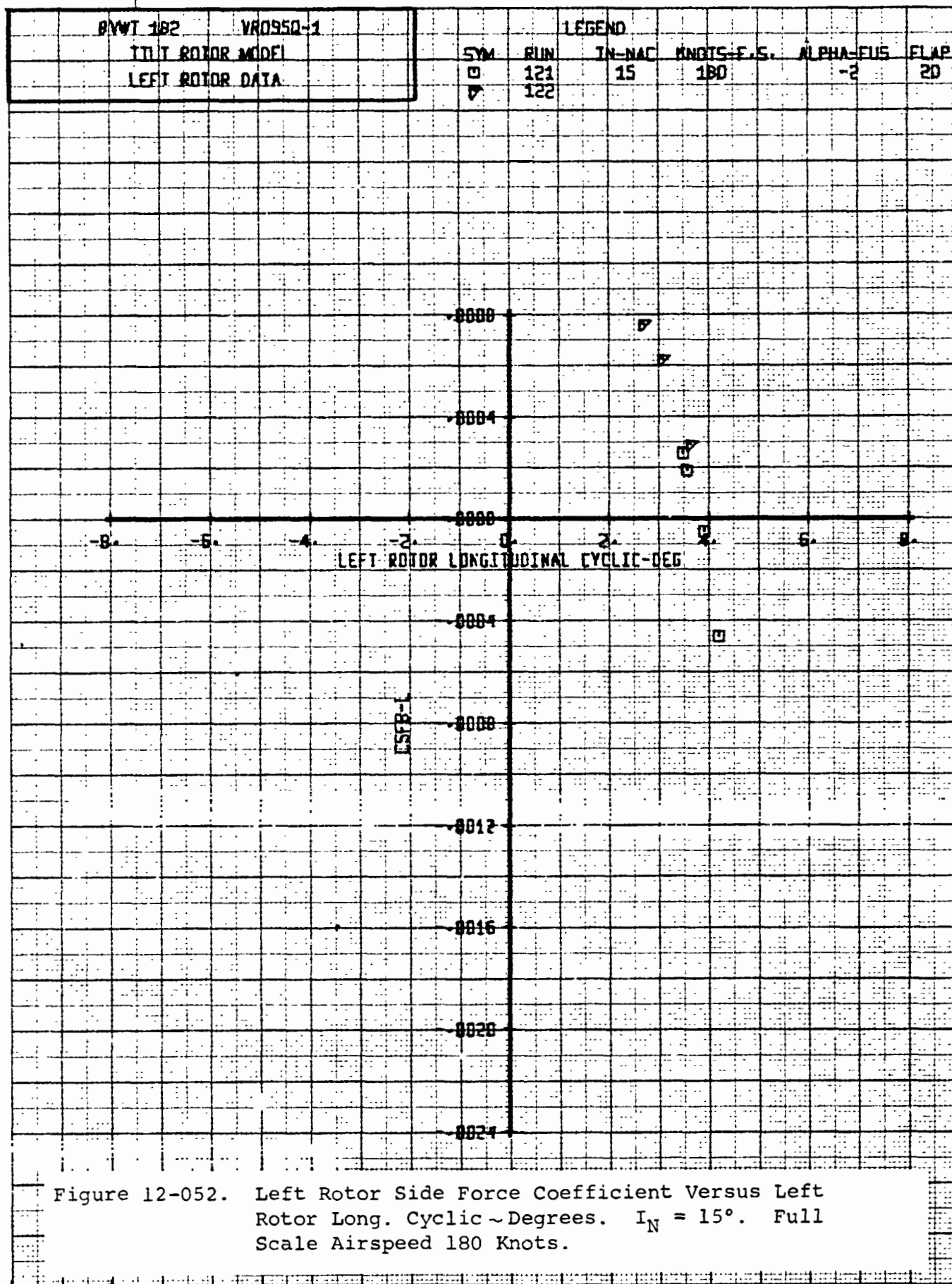
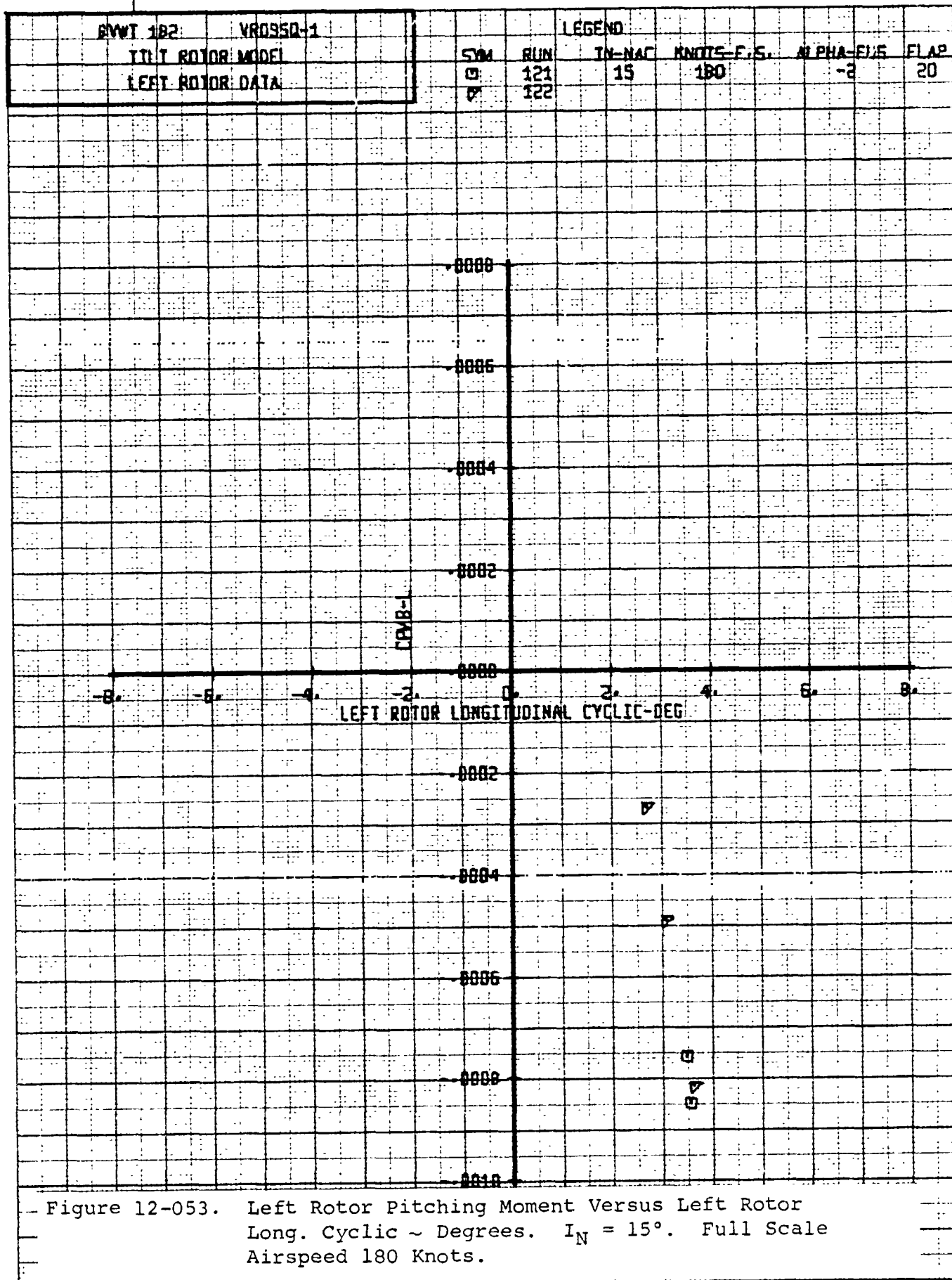
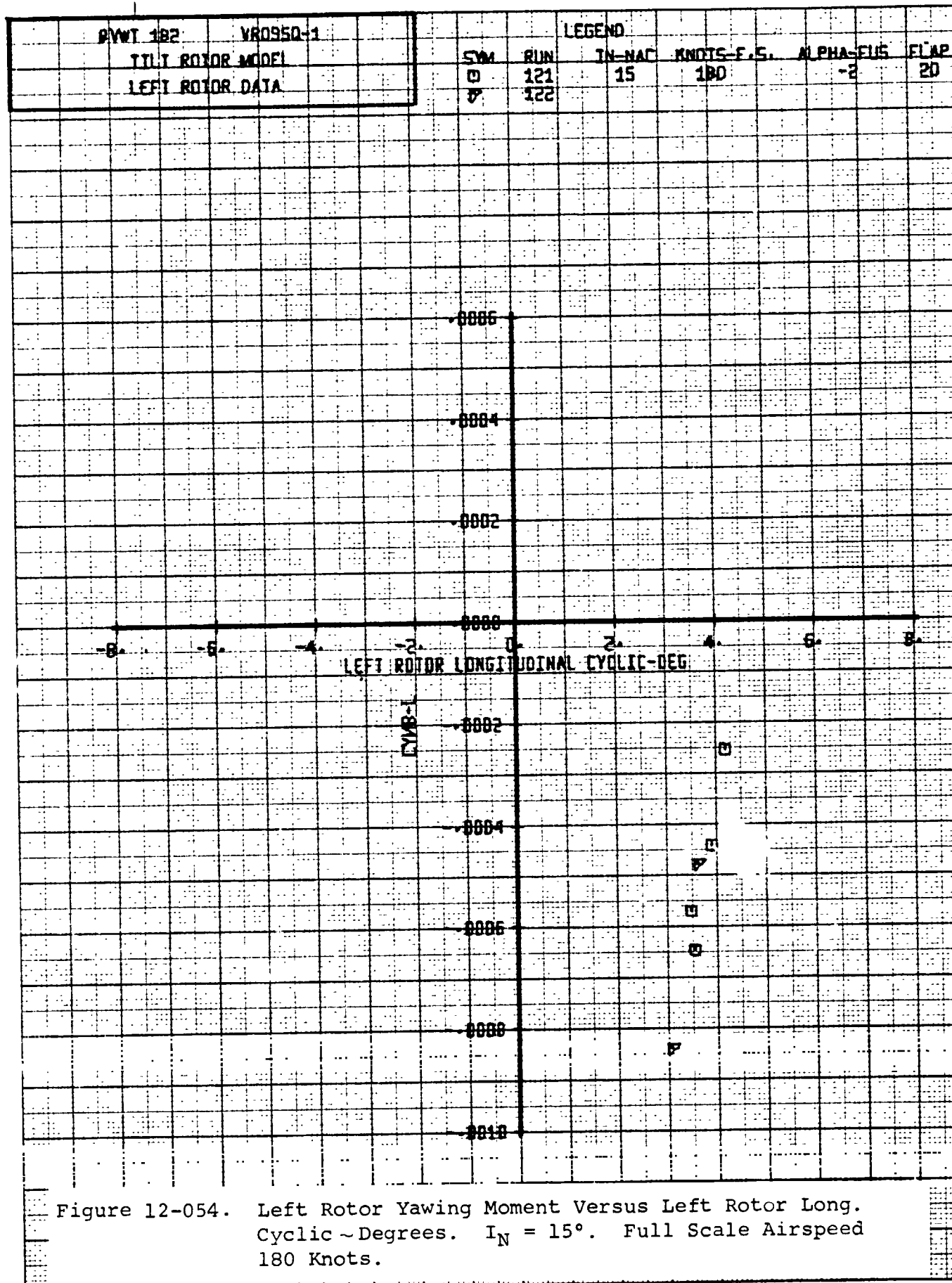


Figure 12-051. Left Rotor Normal Force Coefficient Versus Left Rotor Long. Cyclic ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

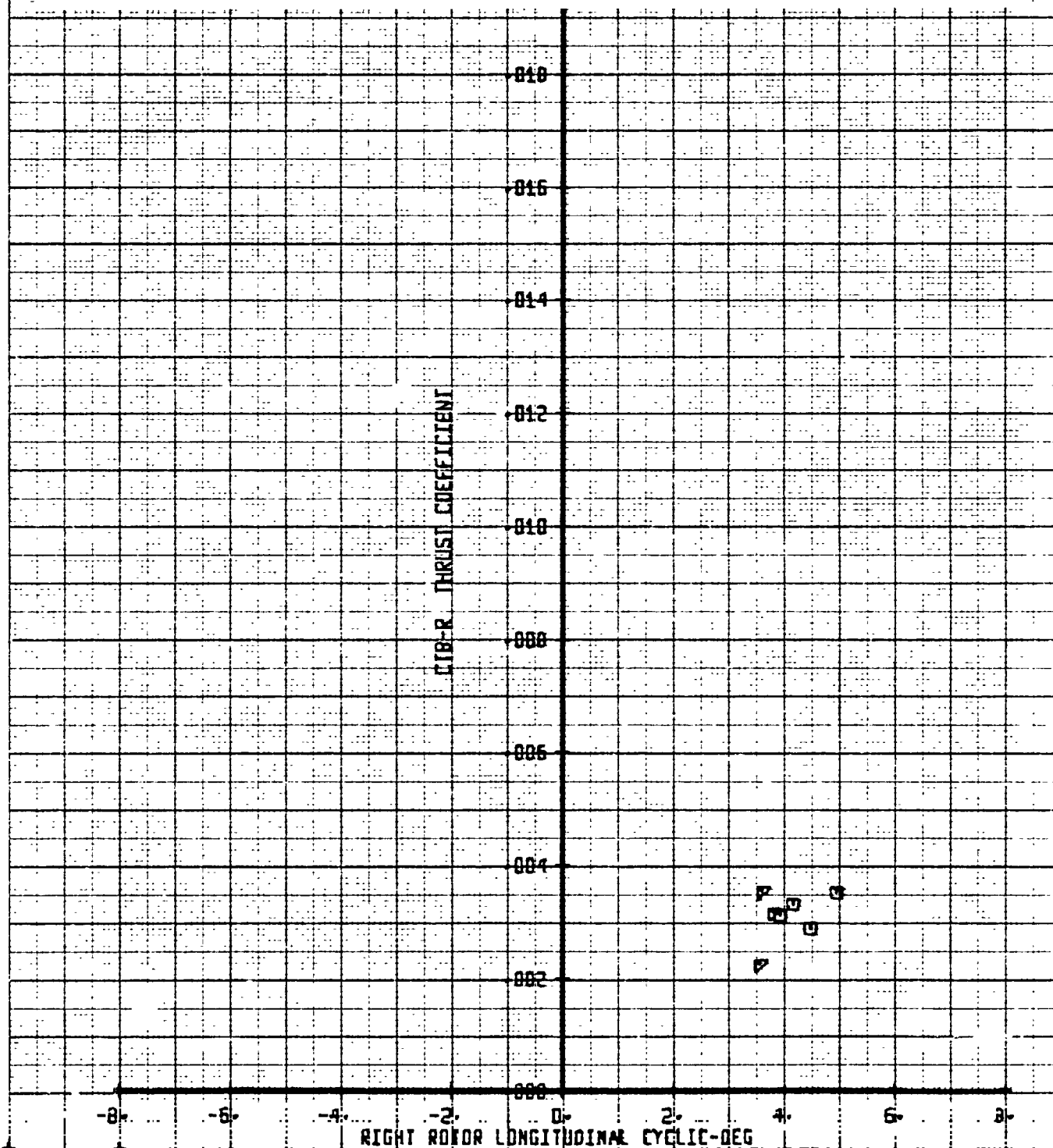






BVWT 182	VR0950-1	LEGEND				
YILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FLU5
RIGHT ROTOR DATA		0	121	15	180	-2
		1	122			20

Figure 12-055. Right Rotor Thrust Coefficient Versus Right Rotor Long. Cyclic~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



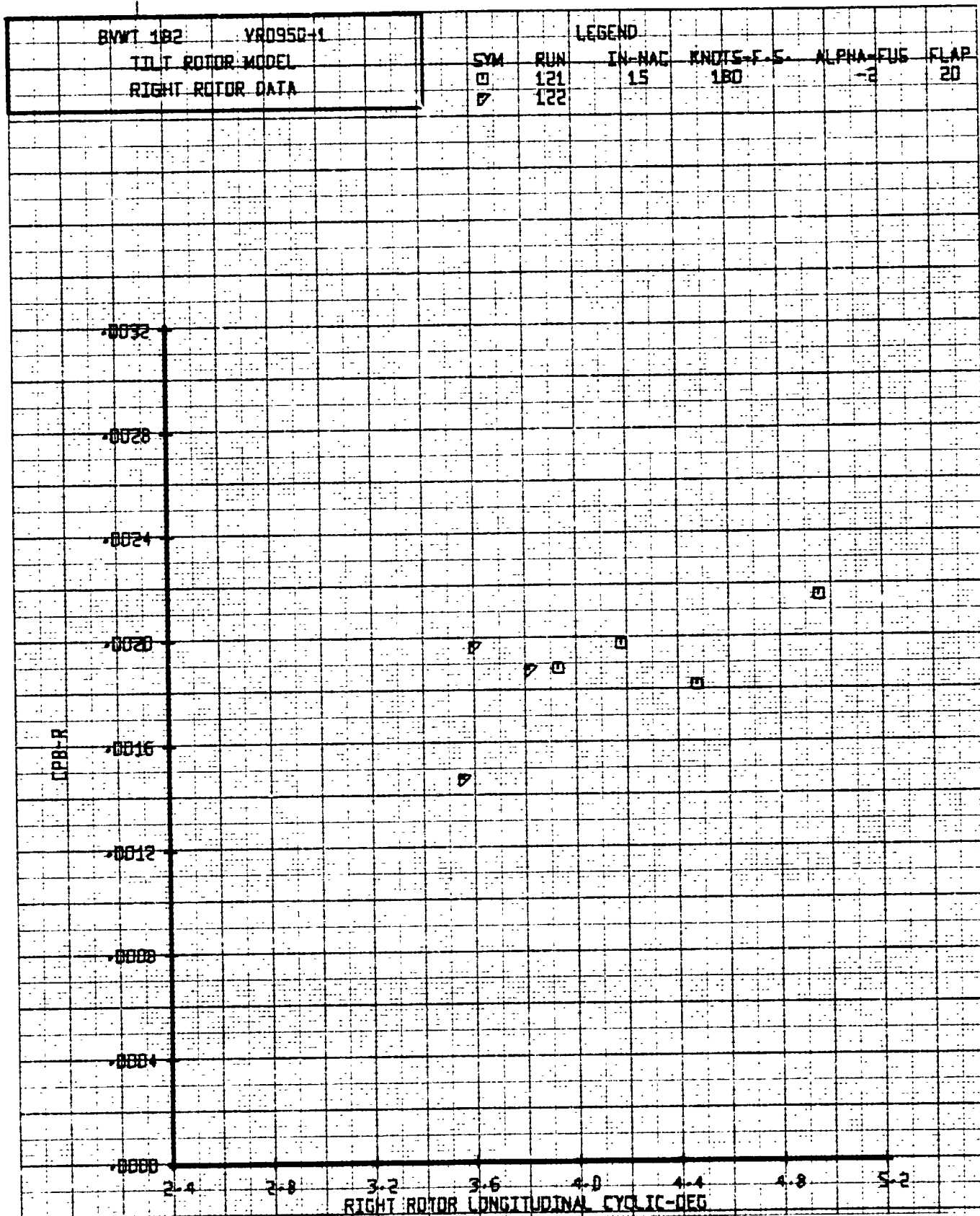
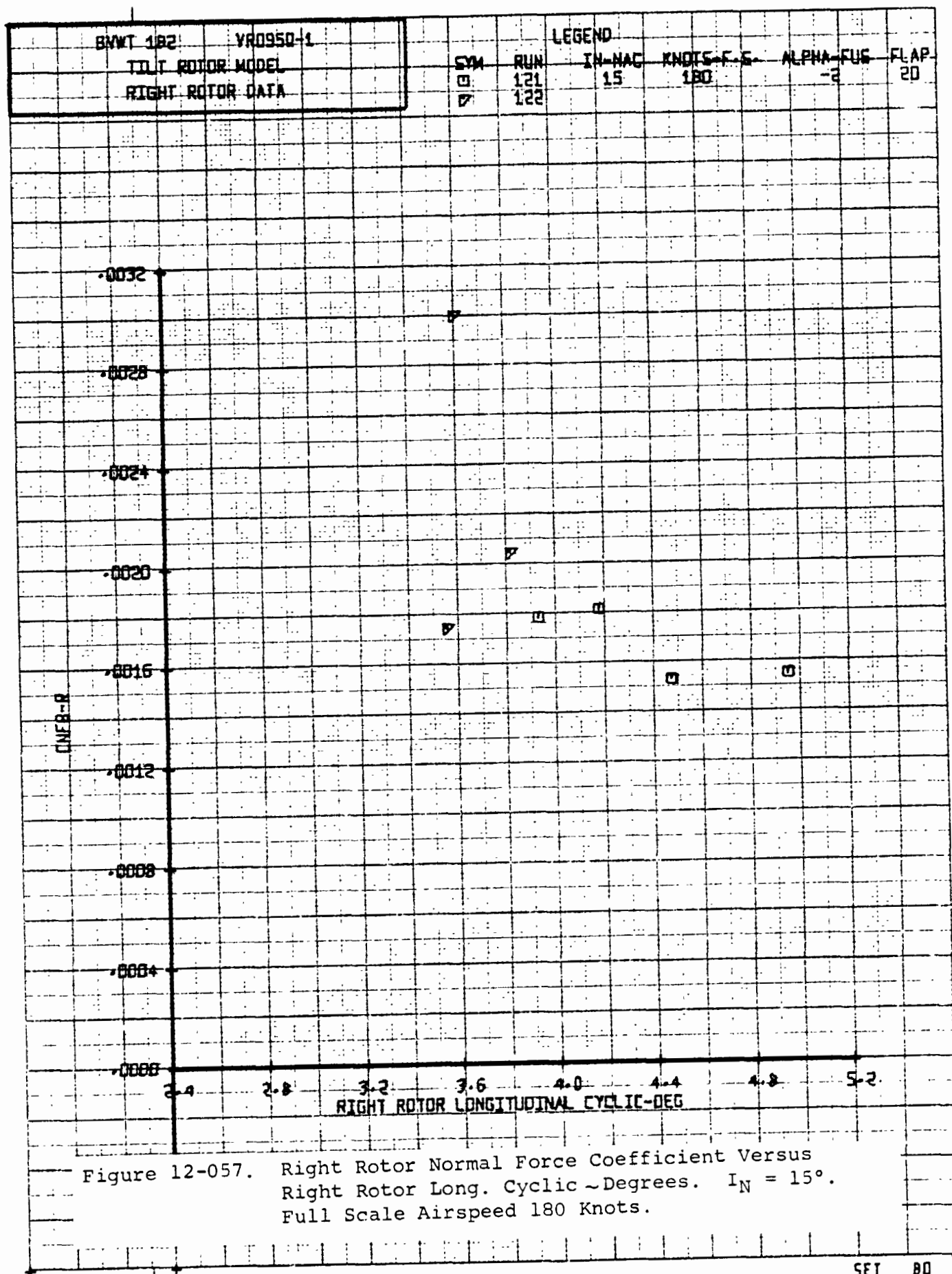


Figure 12-056. Right Rotor Power Coefficient Versus Right Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



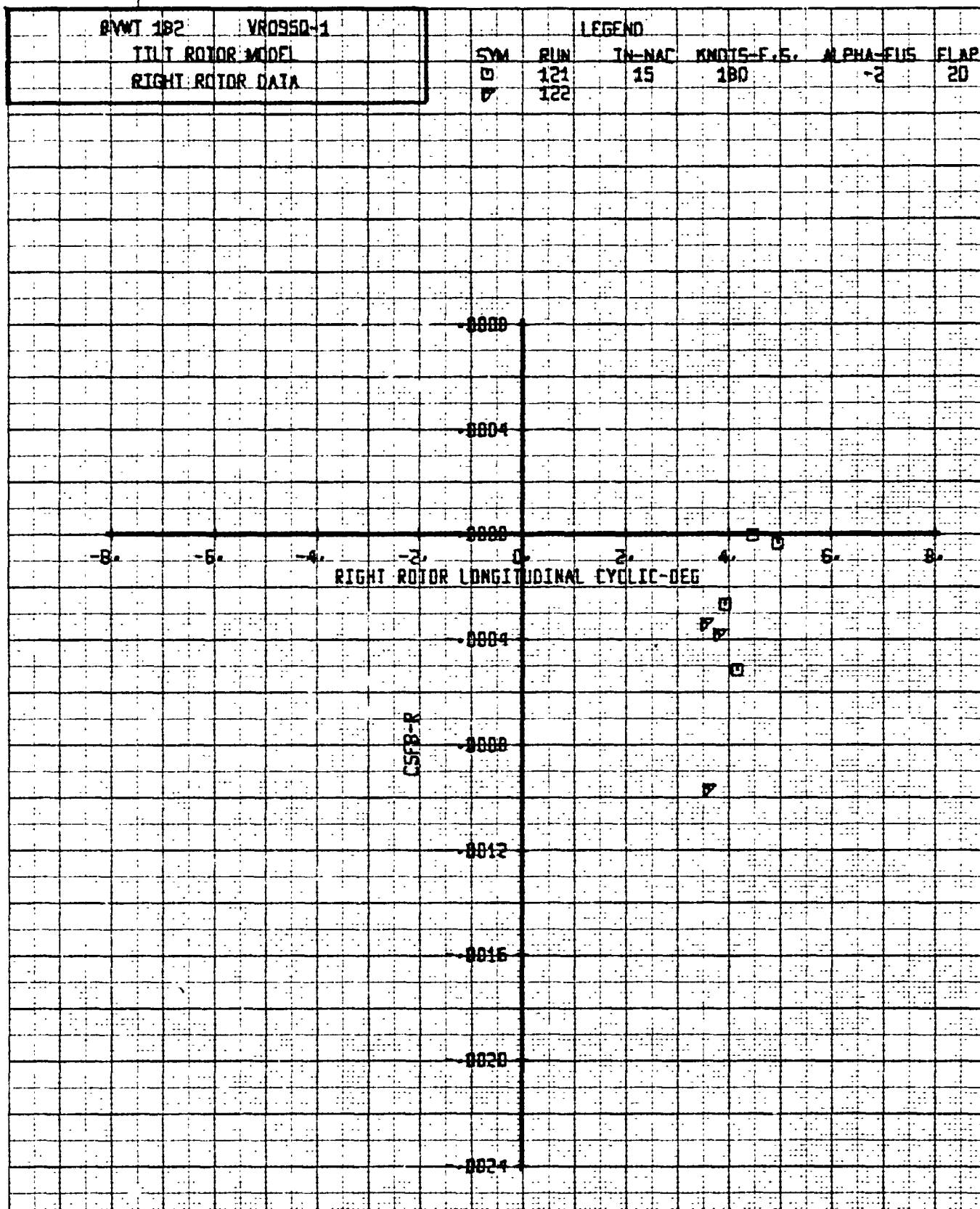
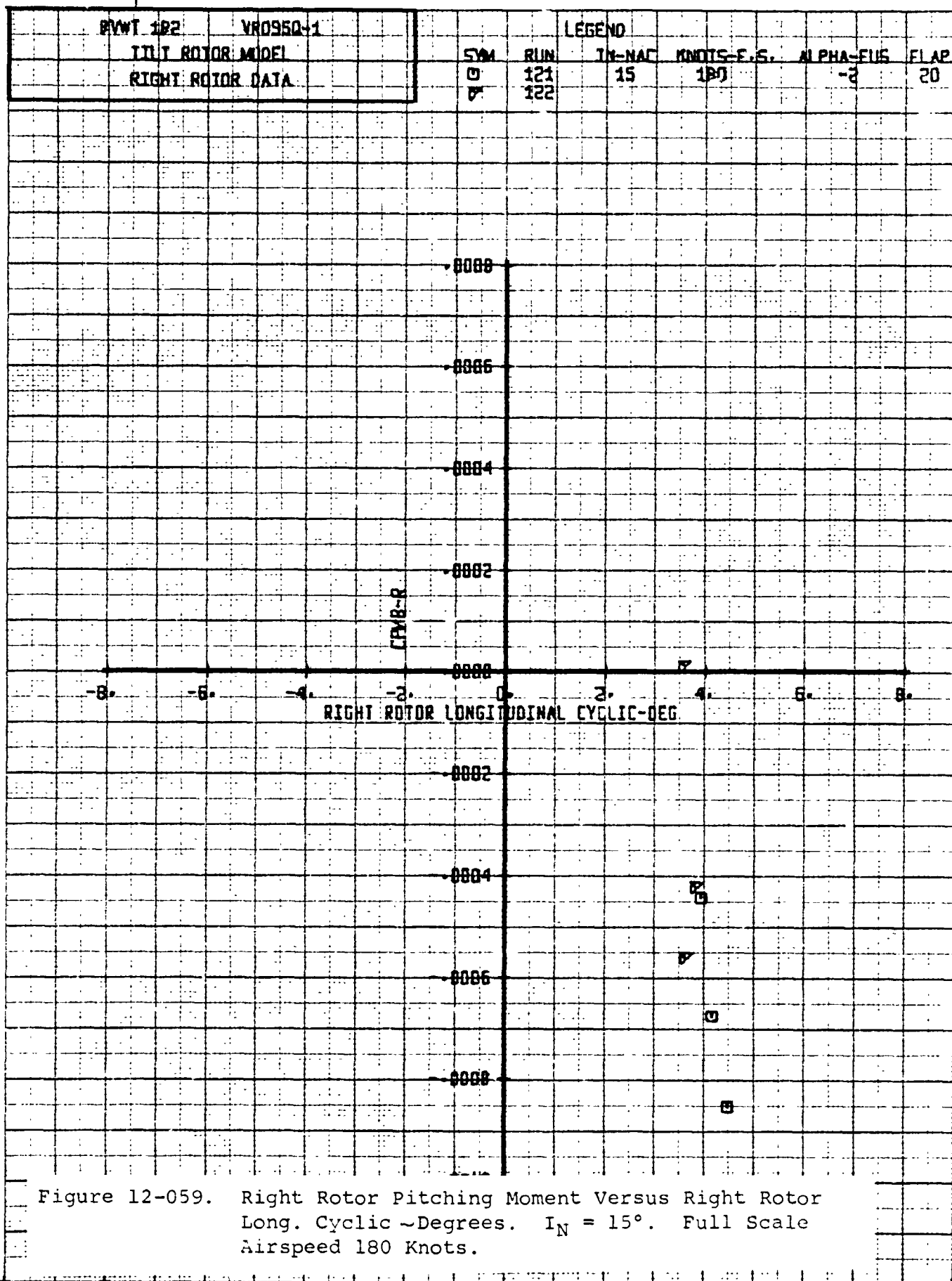
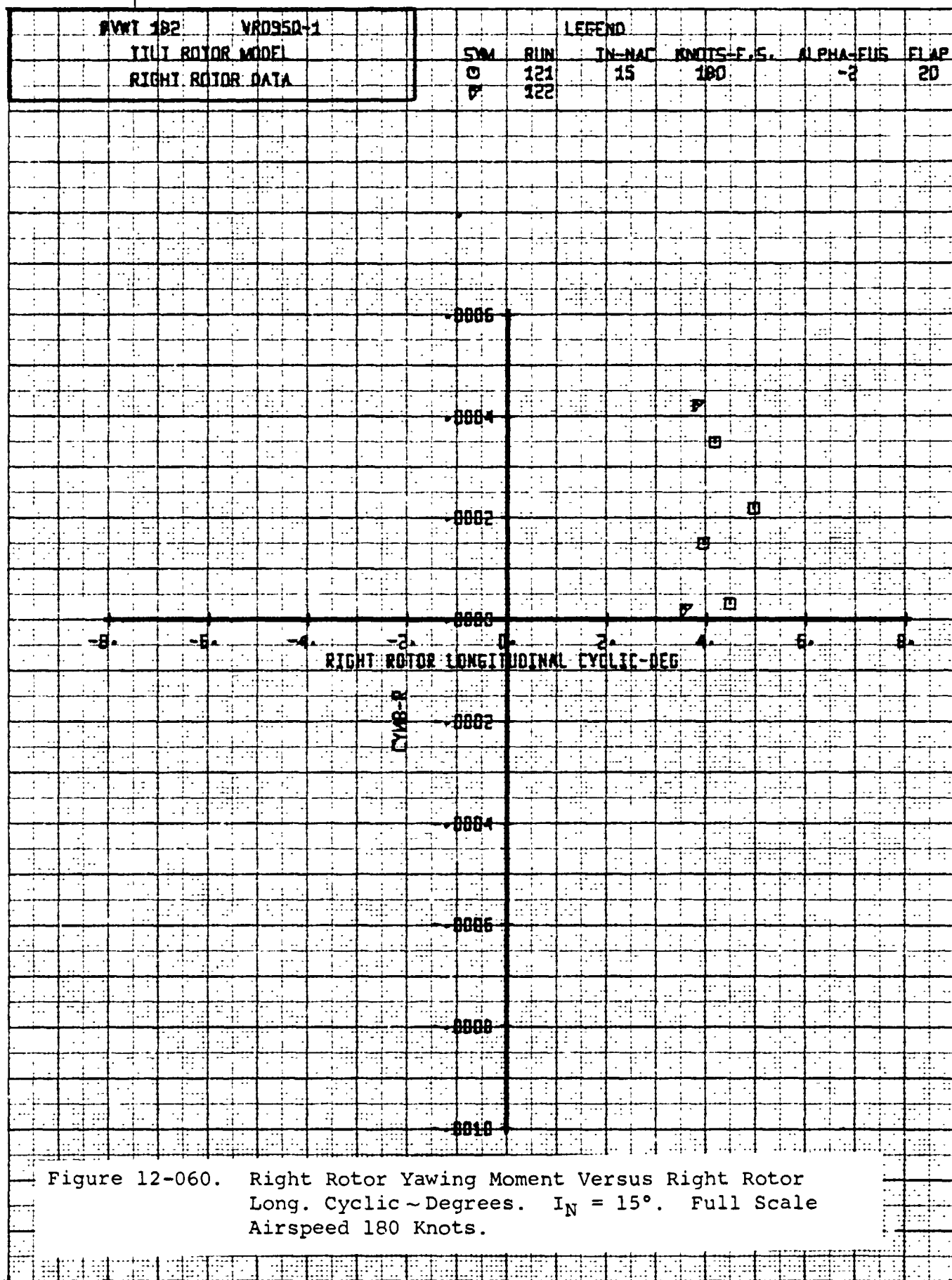
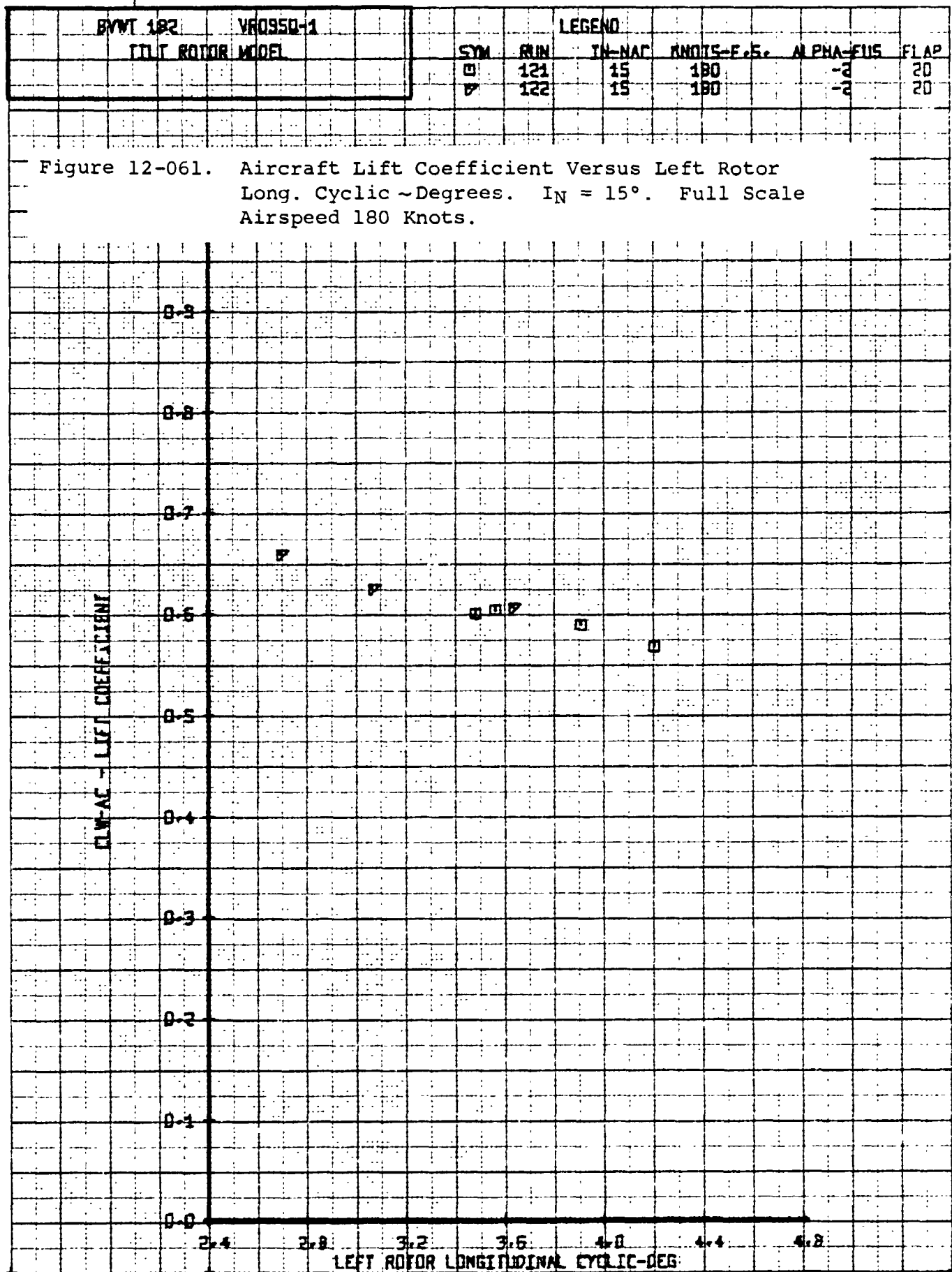
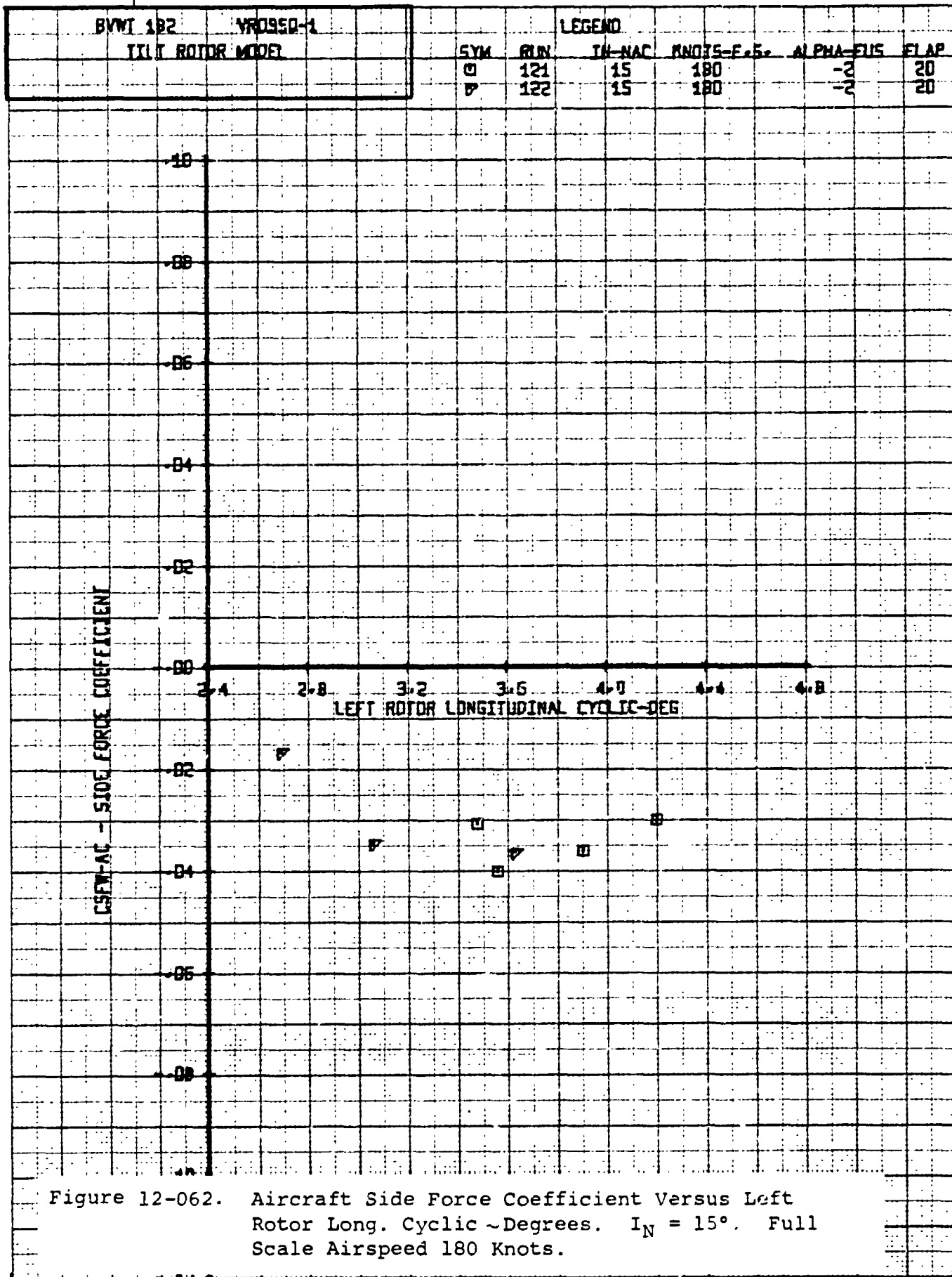


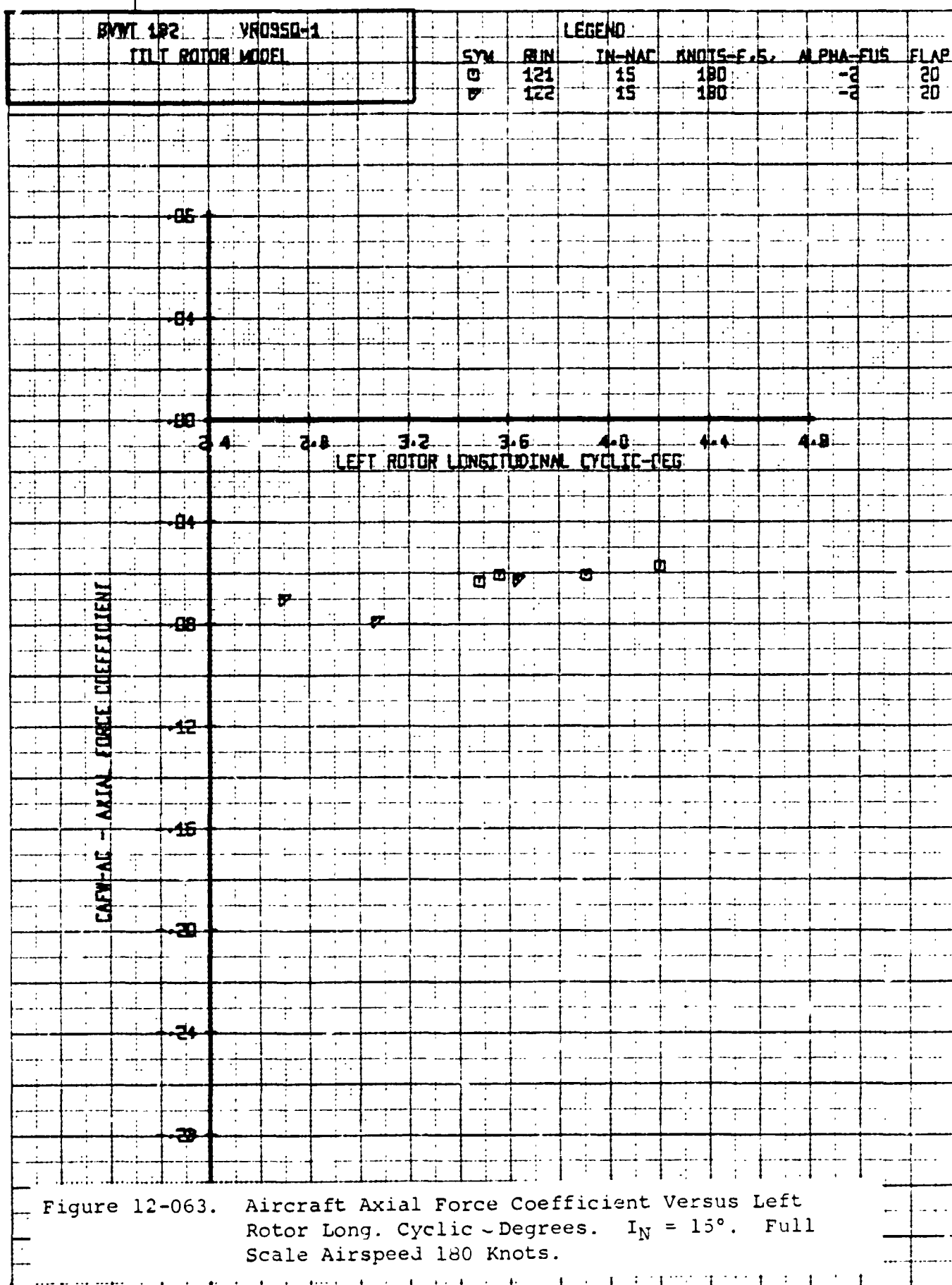
Figure 12-058. Right Rotor Side Force Coefficient Versus Right Rotor Long. Cyclic ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.











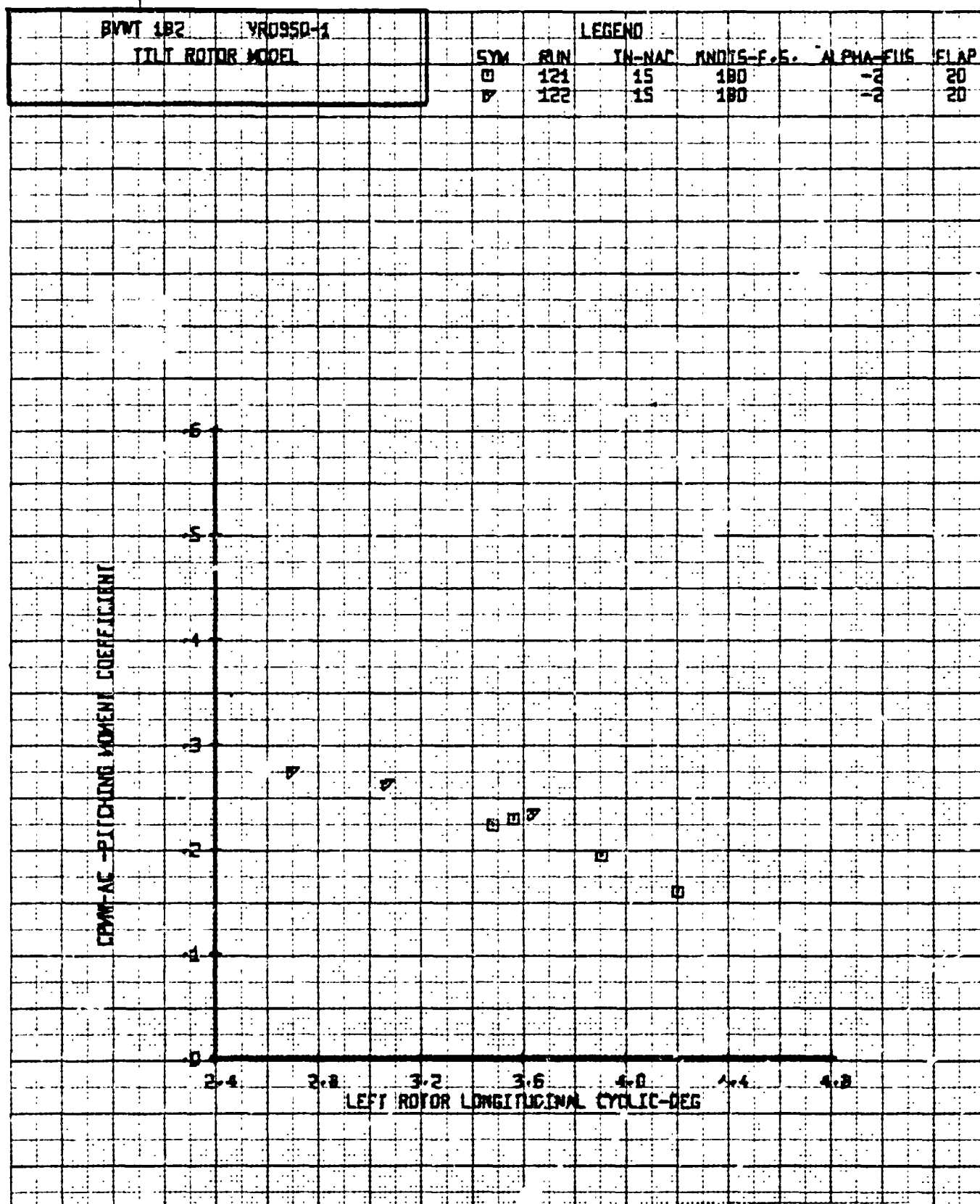
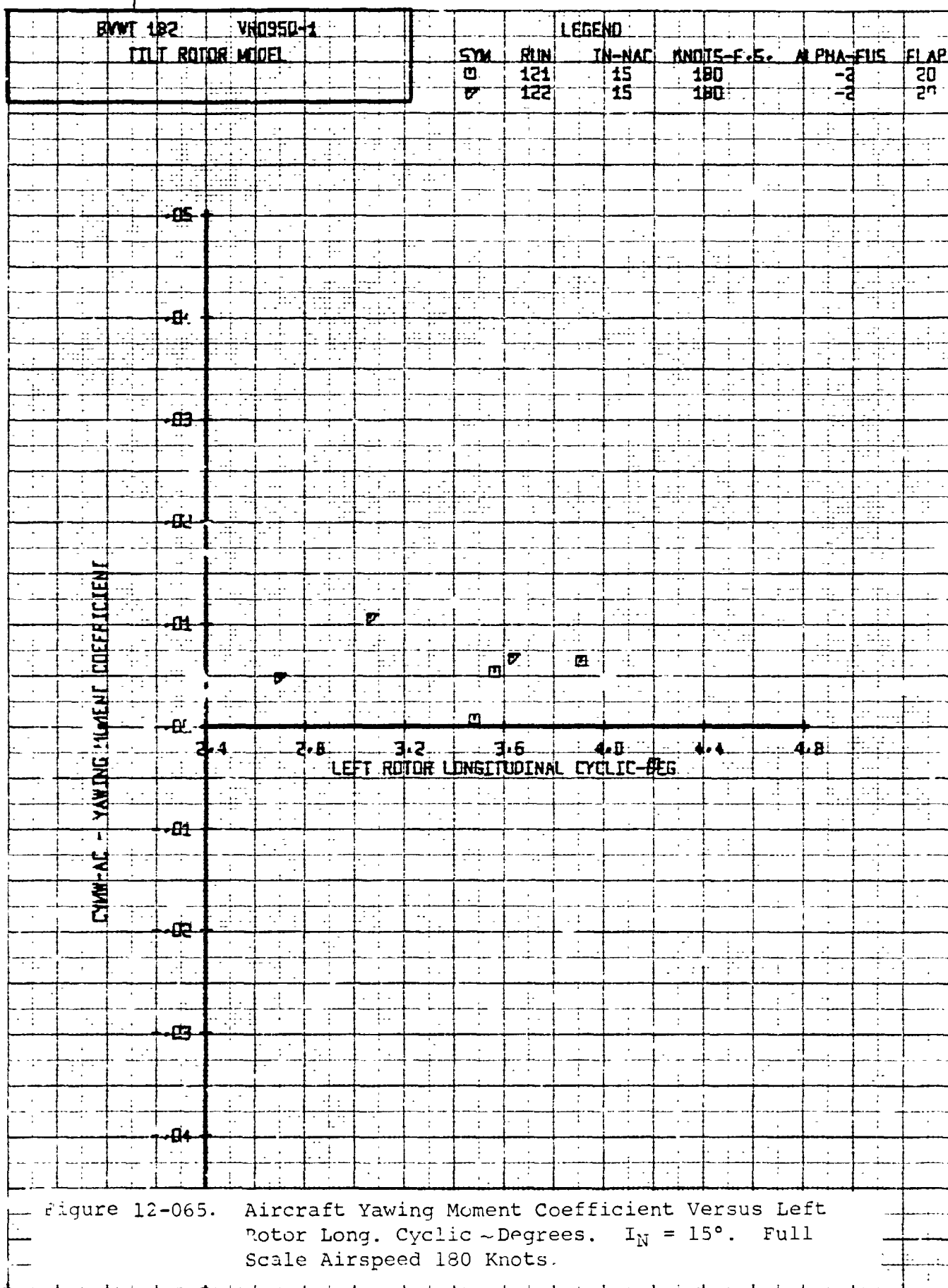


Figure 12-064. Aircraft Pitching Moment Coefficient Versus Left Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



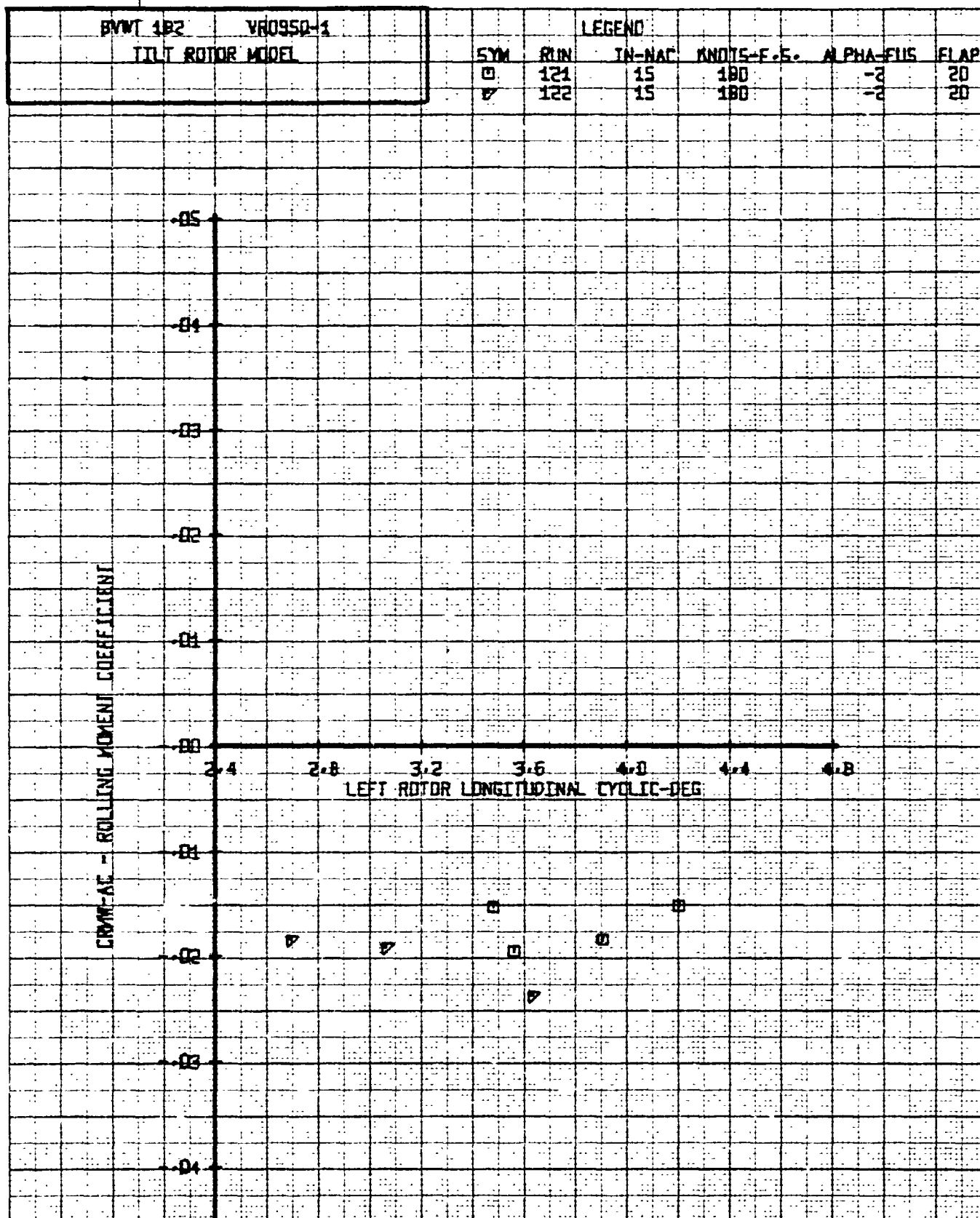
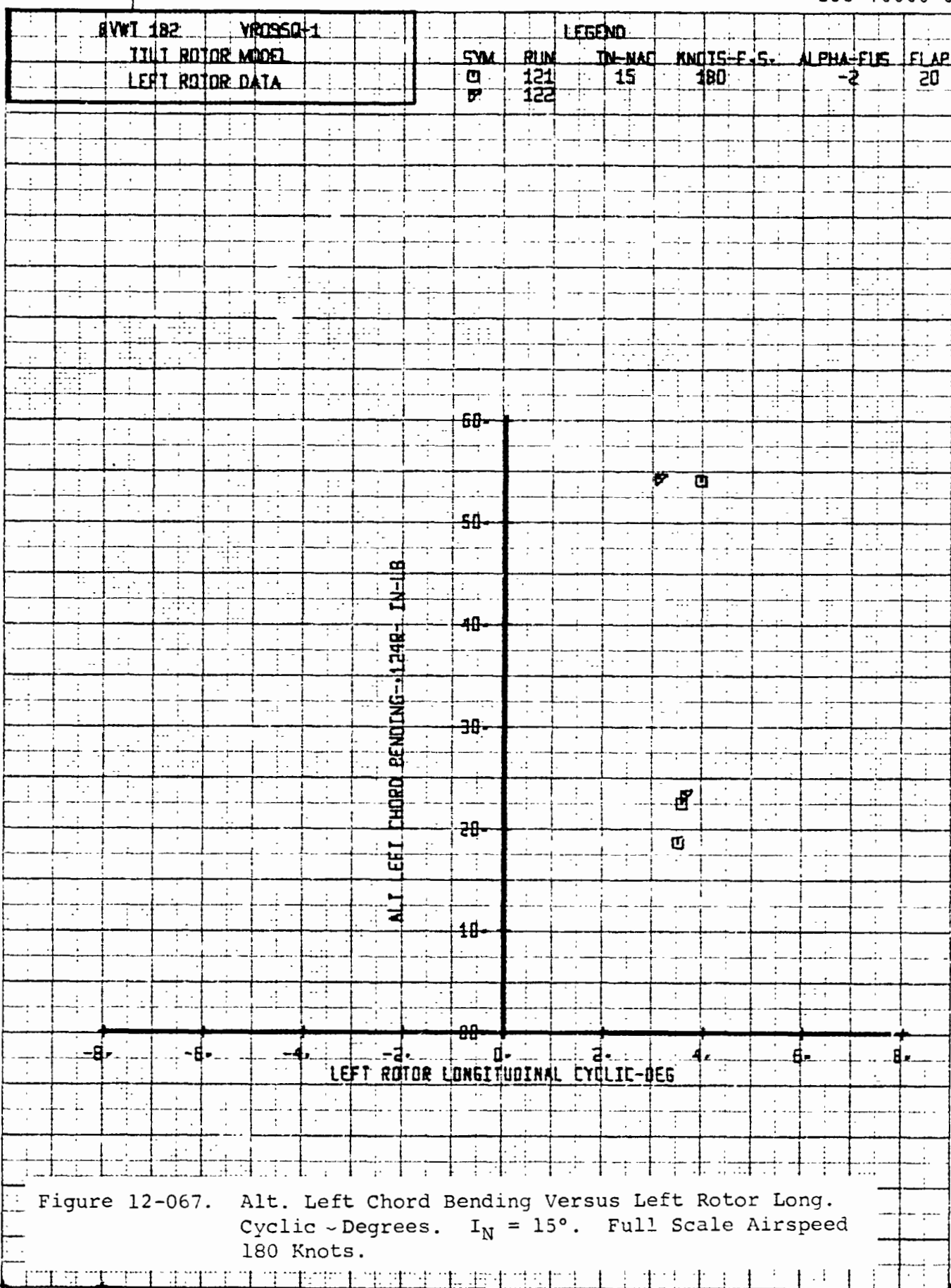
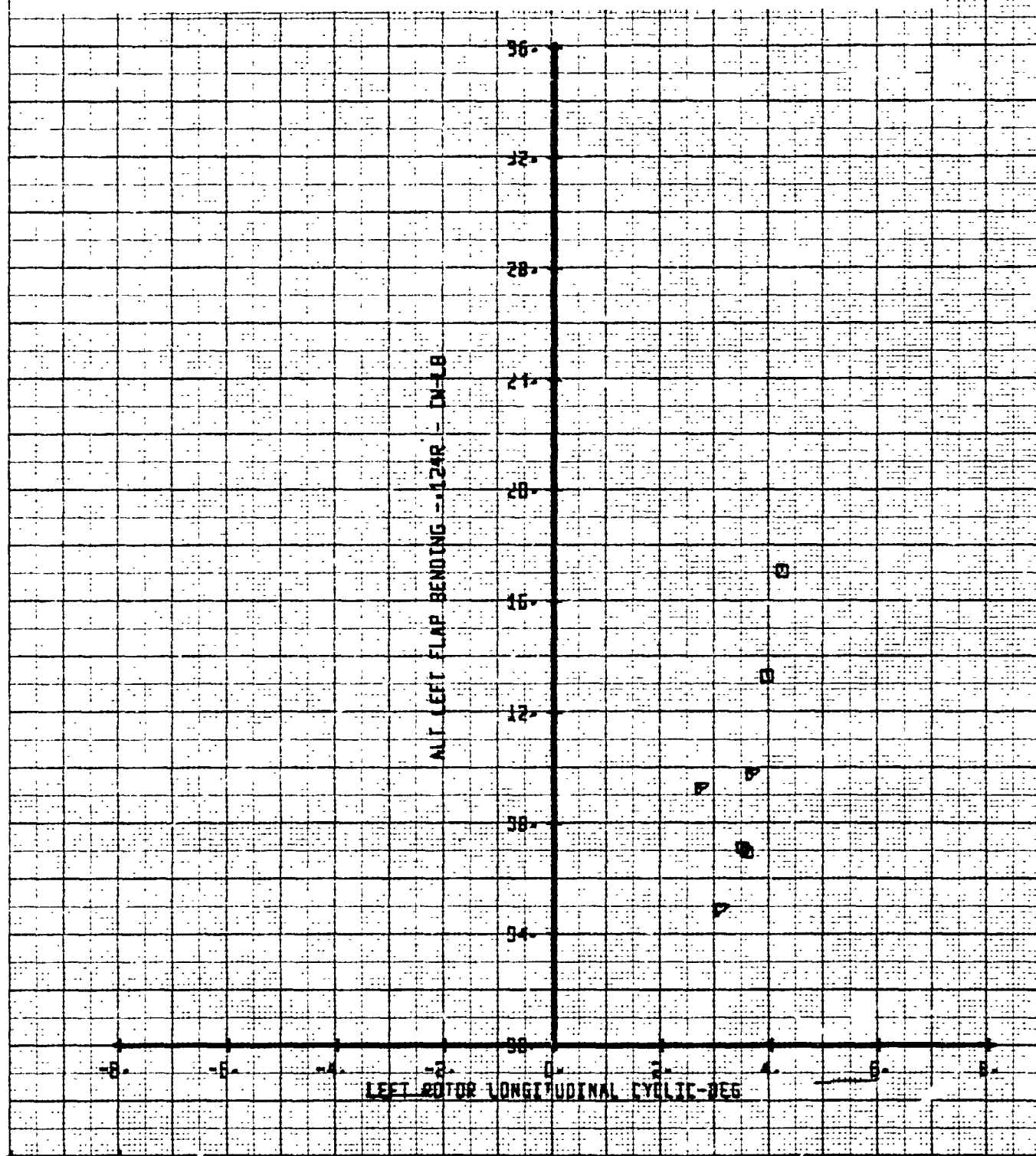


Figure 12-066. Aircraft Rolling Moment Coefficient Versus
Left Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$.
Full Scale Airspeed 180 Knots.



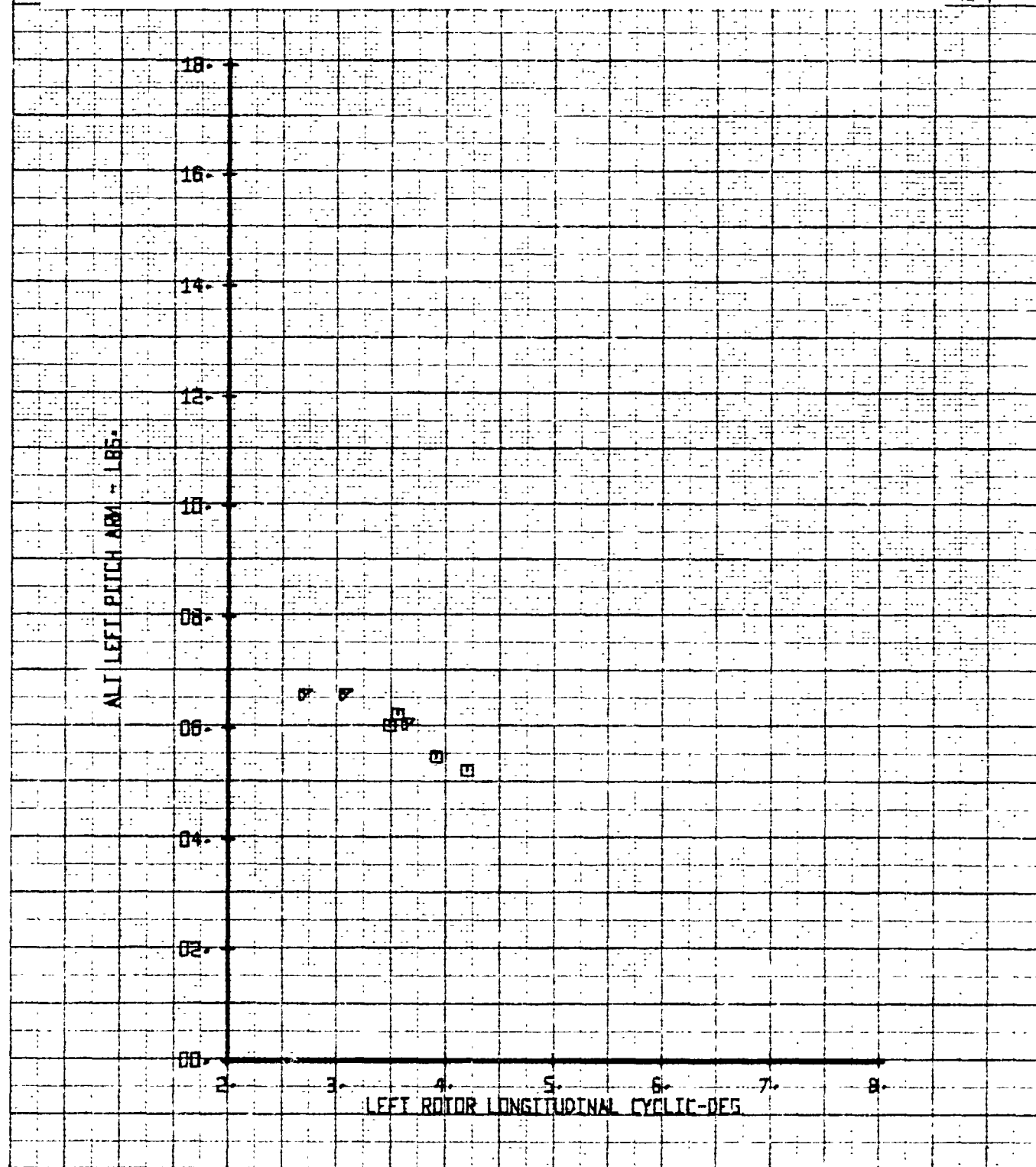
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	121	15	180	-2
		▽	122			20

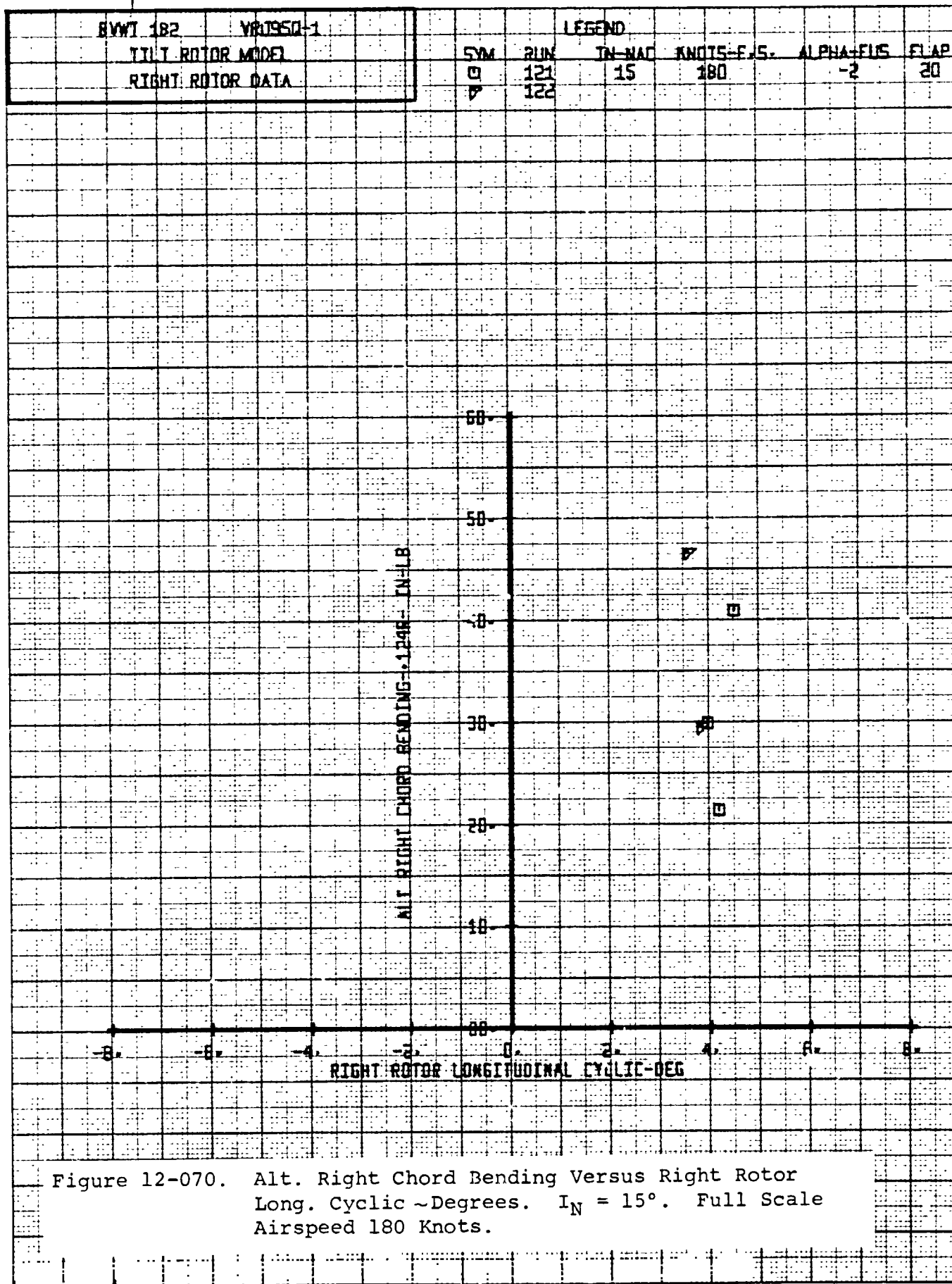
Figure 12-068. Alt. Left Flap Bending Versus Left Rotor Long.
Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed
180 Knots.



BWT 182		VR0950-1		LEGEND					
ITLT ROTOR MODEL				SYM	RUN	IN NAC	KNOTS F-S	ALPHA FUS	FLAP
LEFT ROTOR DATA				0	121	15	180	-3	20
				4	122	15	180	-3	20

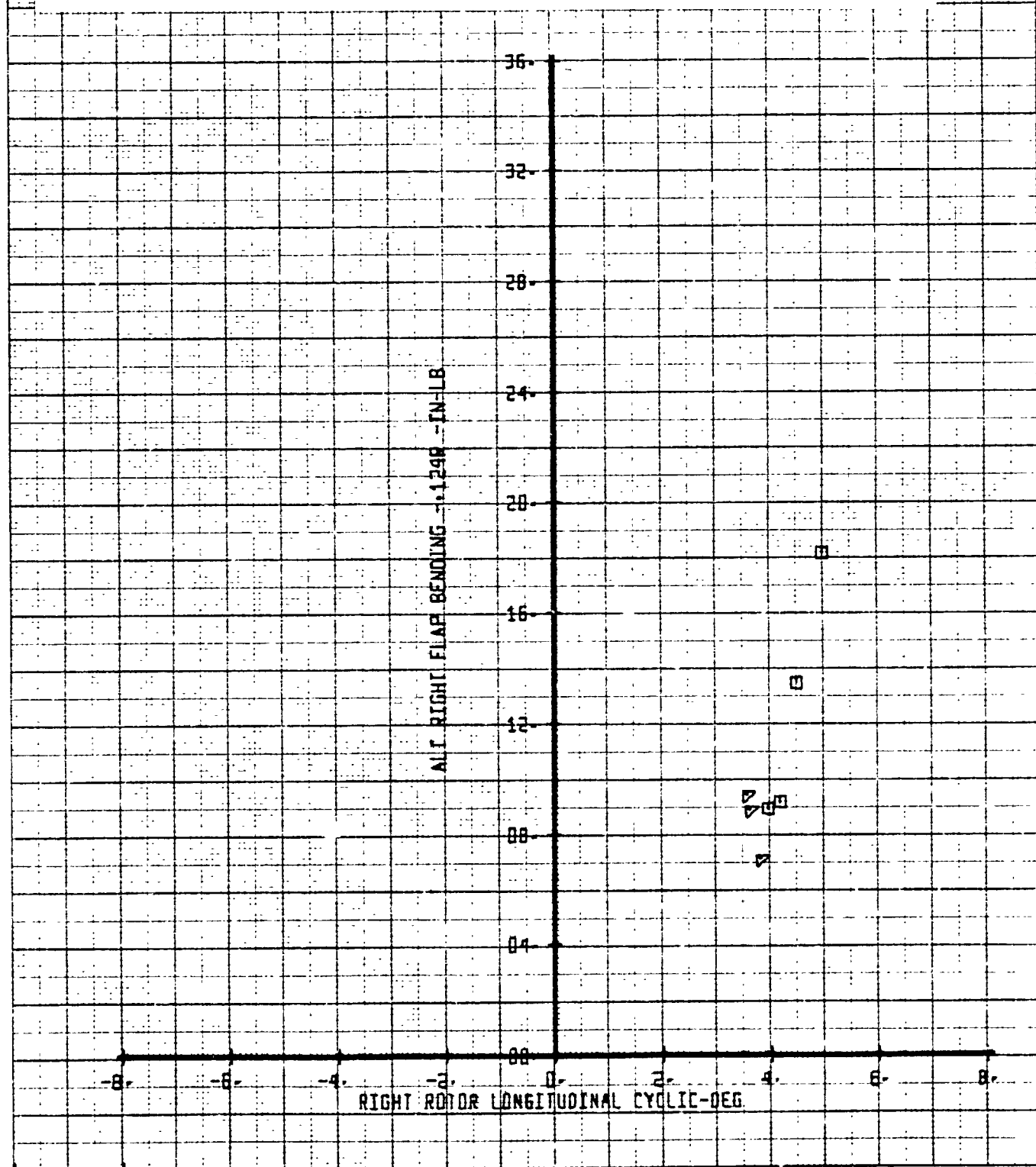
Figure 12-069. Alt. Left Pitch Link Load Versus Left Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





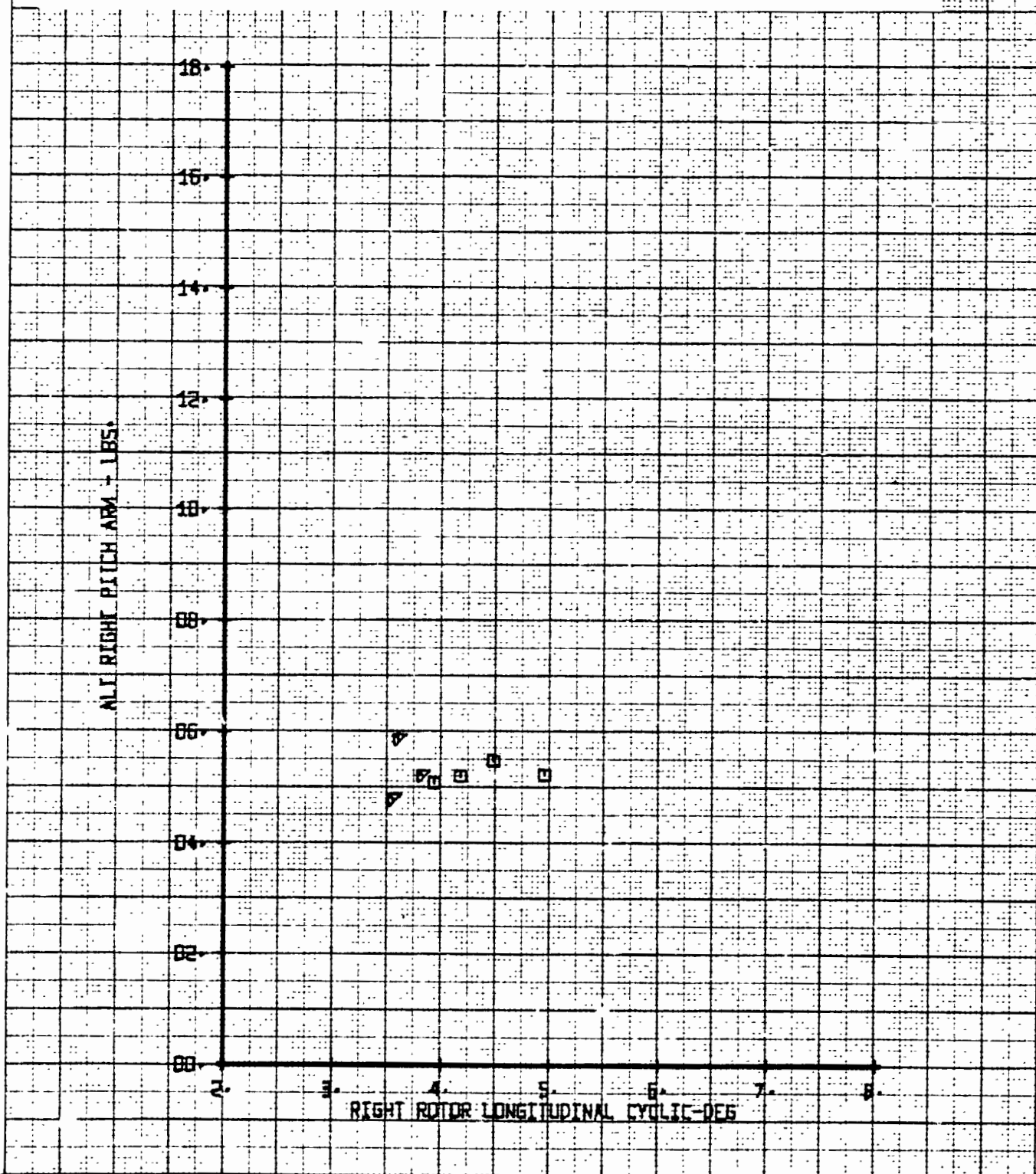
BVWT 182	VR0550-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-E-S.	ALPHA-EUS
RIGHT ROTOR DATA		□	121	15	180	-2
		▽	122			20

Figure 12-071. Alt. Right Flap Bending Versus Right Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



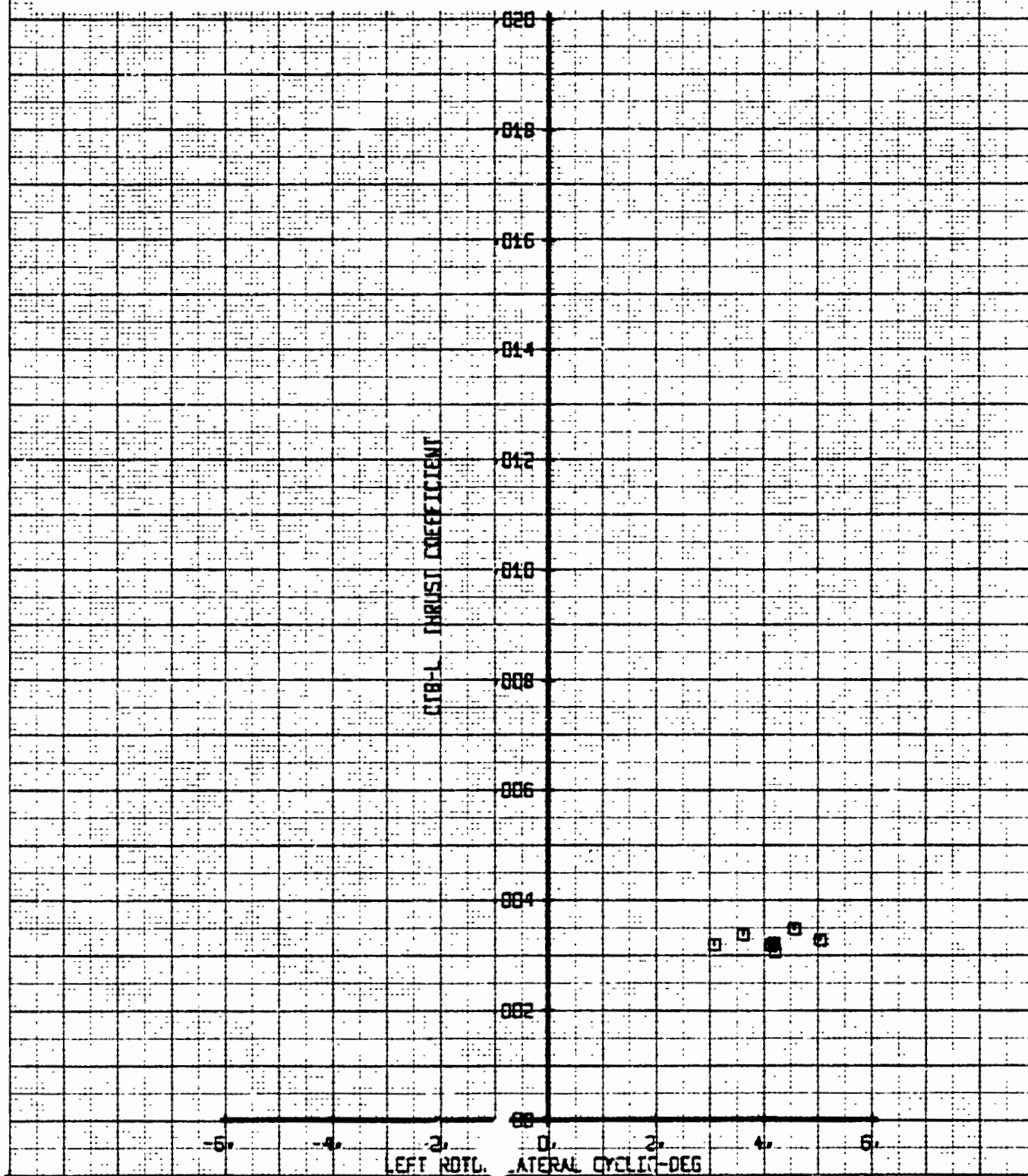
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	121	15	180	-2
		▽	122	15	180	-2
						FLAP
						20
						20

Figure 12-072. Alt. Right Pitch Link Load Versus Right Rotor Long. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	120	15	180	-2
						20

Figure 12-073. Left Rotor Thrust Coefficient Versus Left Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



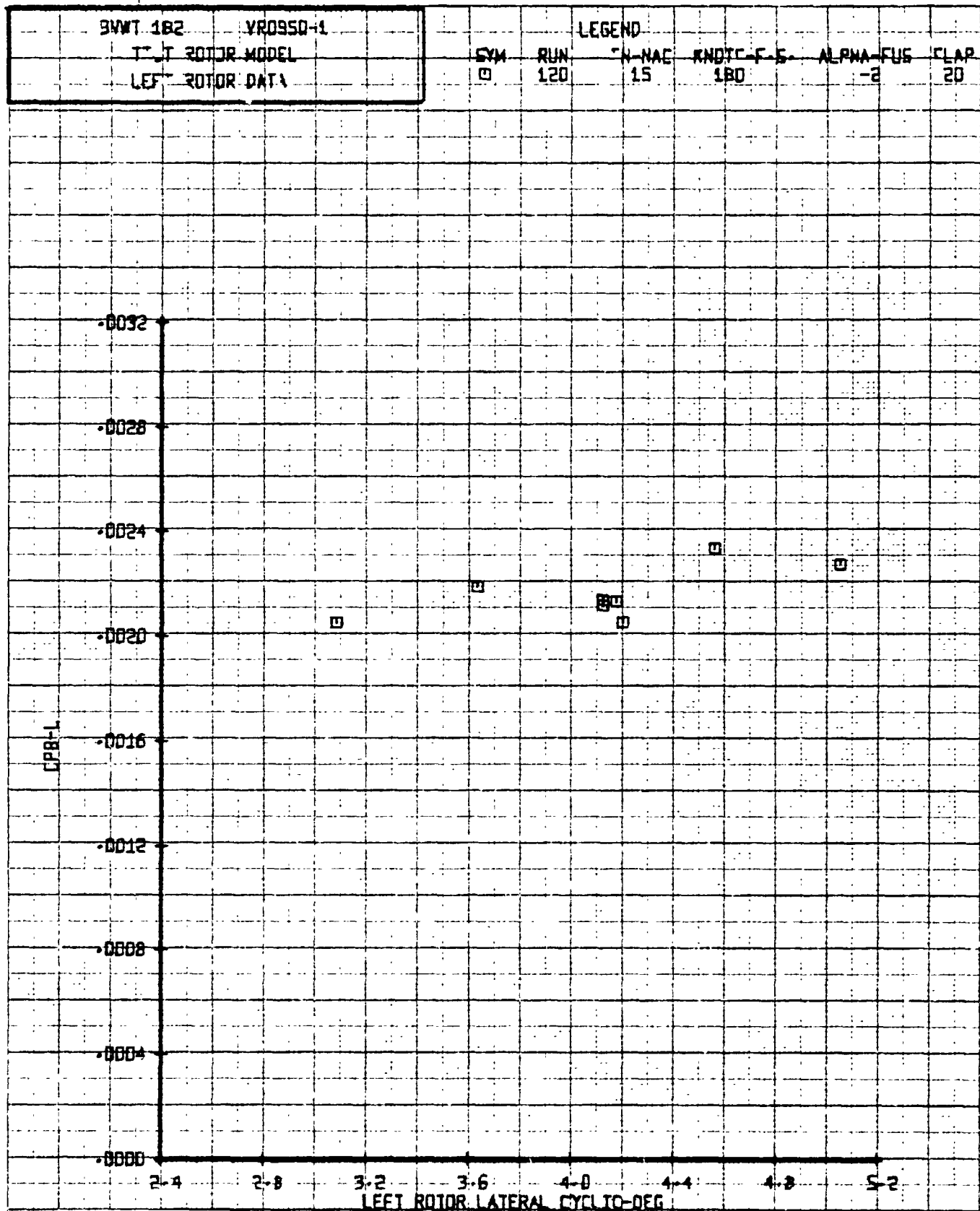


Figure 12-074. Left Rotor Power Coefficient Versus Left Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

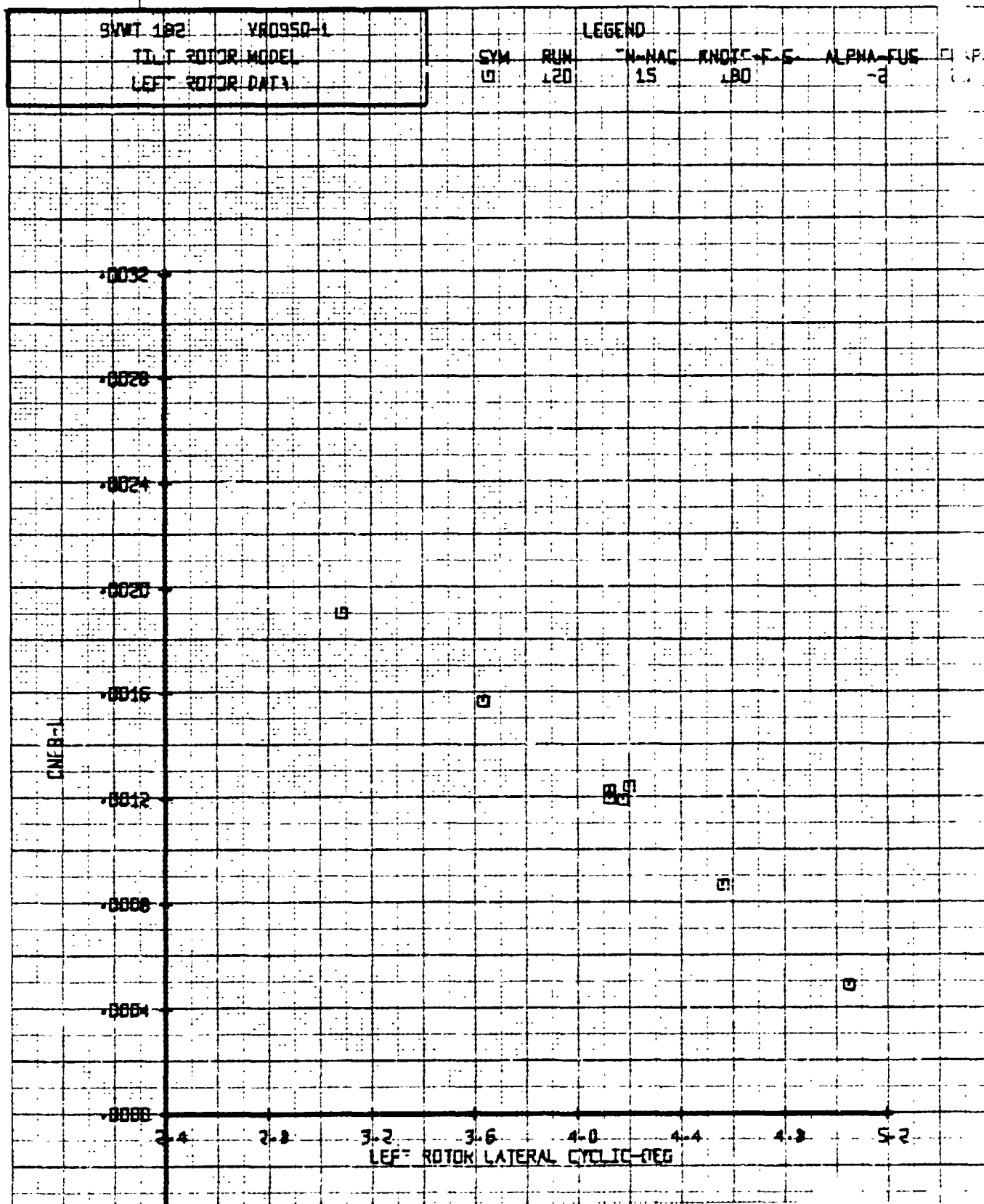


Figure 12-075. Left Rotor Normal Force Coefficient Versus Left Rotor Lat. Cyclic - Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

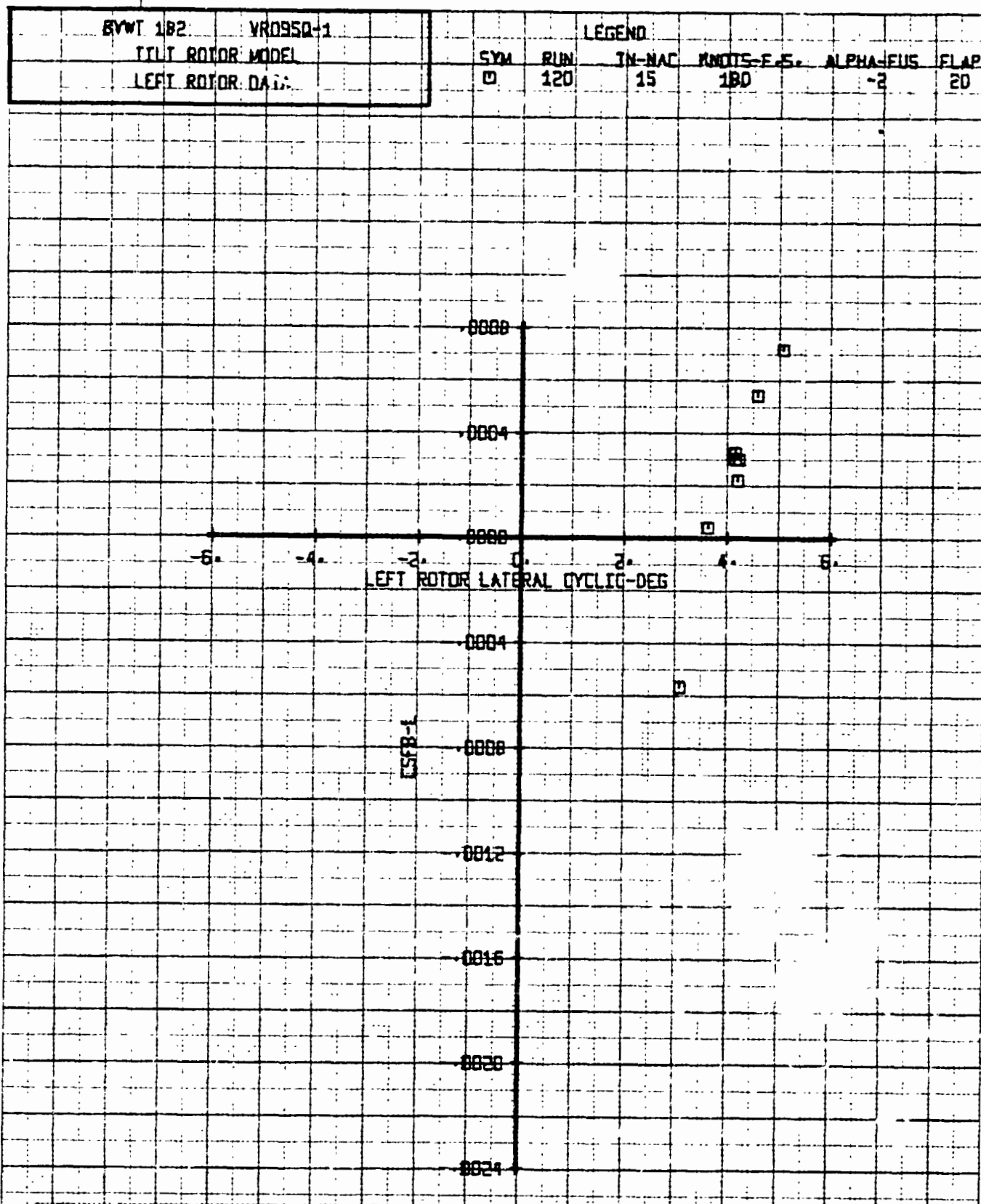
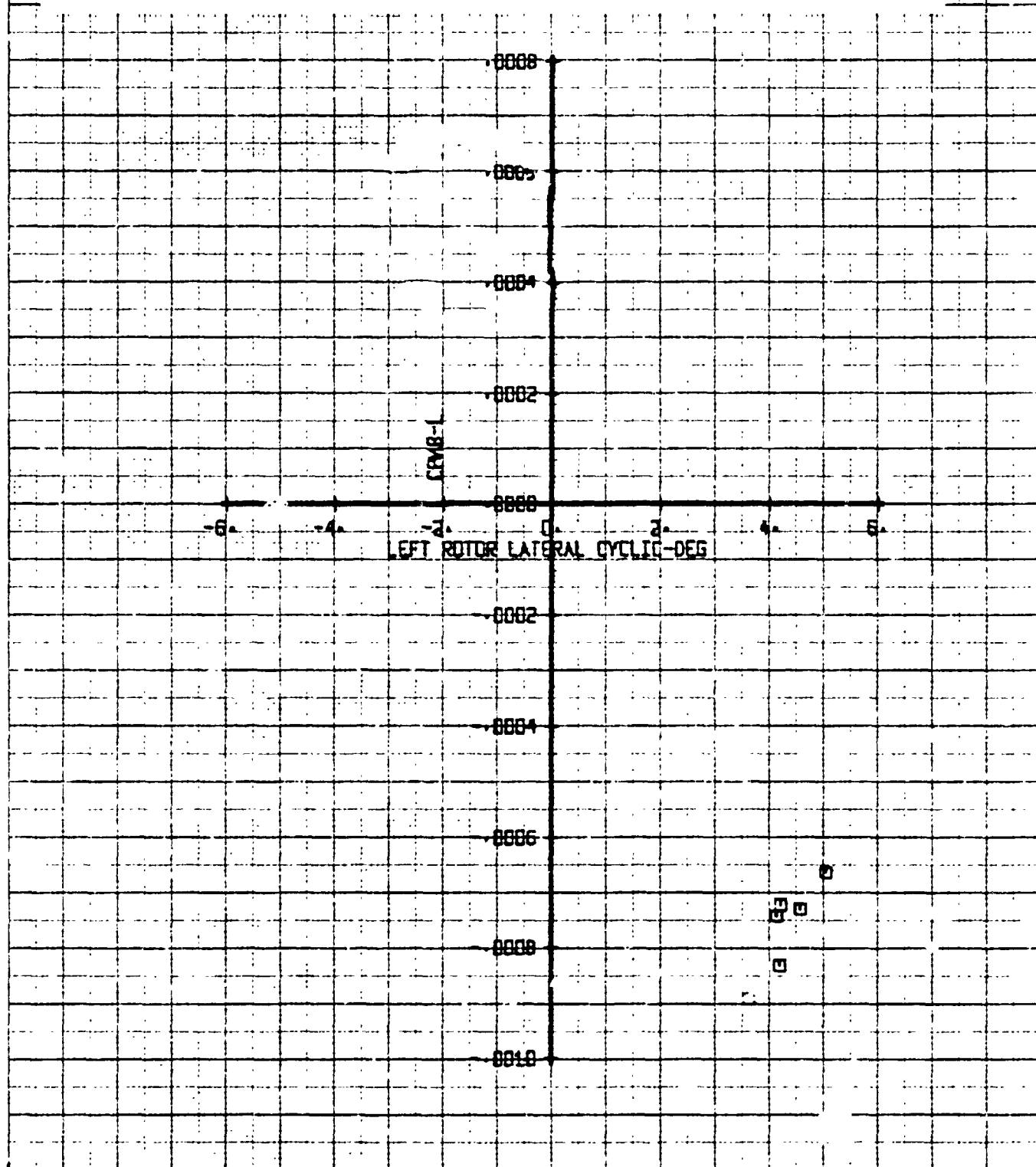


Figure 12-076. Left Rotor Side Force Coefficient Versus Left Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

SVWT 182	VR09SQ-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	120	15	180	-2
						E AP
						20

Figure 12-077. Left Rotor Pitching Moment Coefficient Versus
Left Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$.
Full Scale Airspeed 180 Knots.



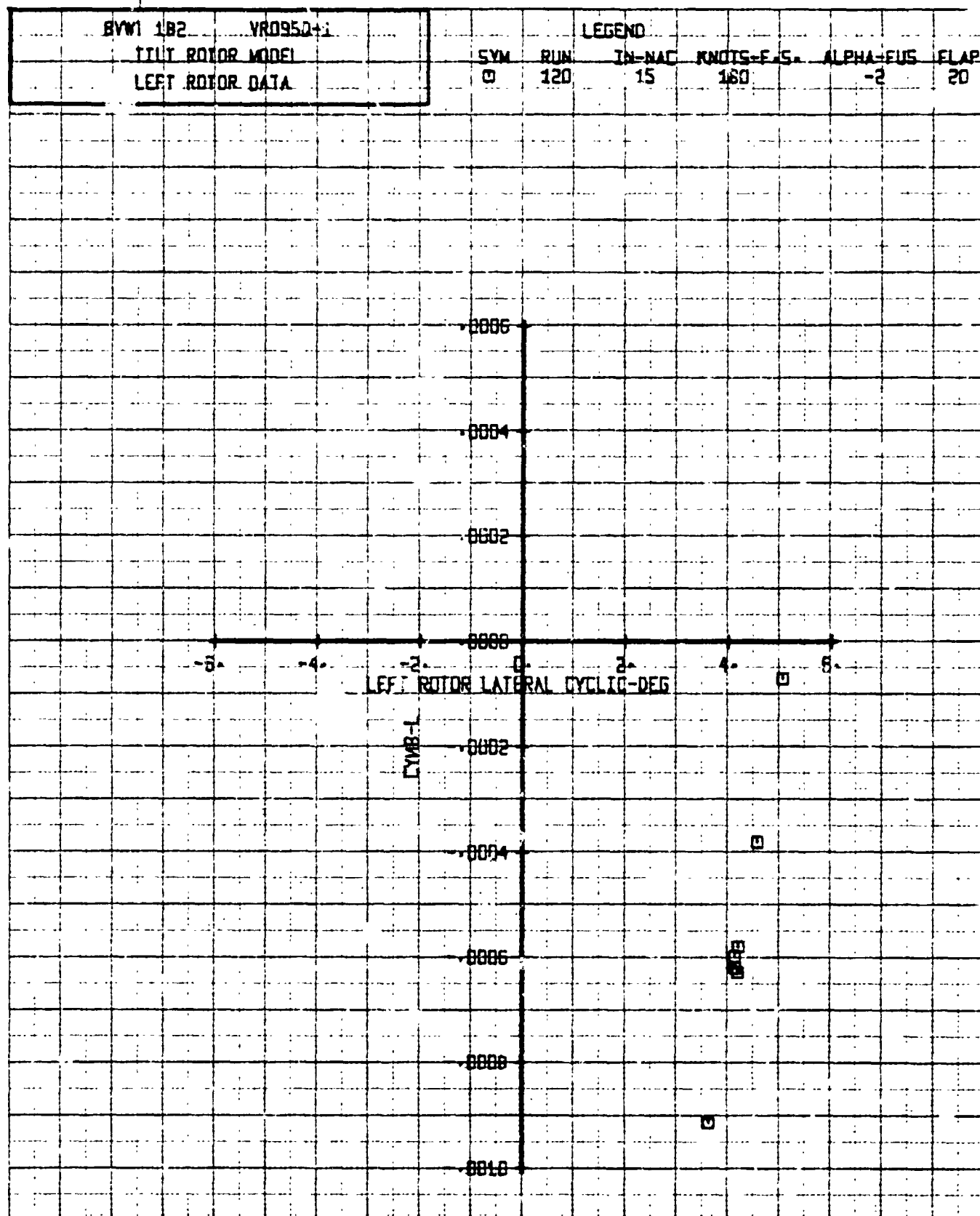
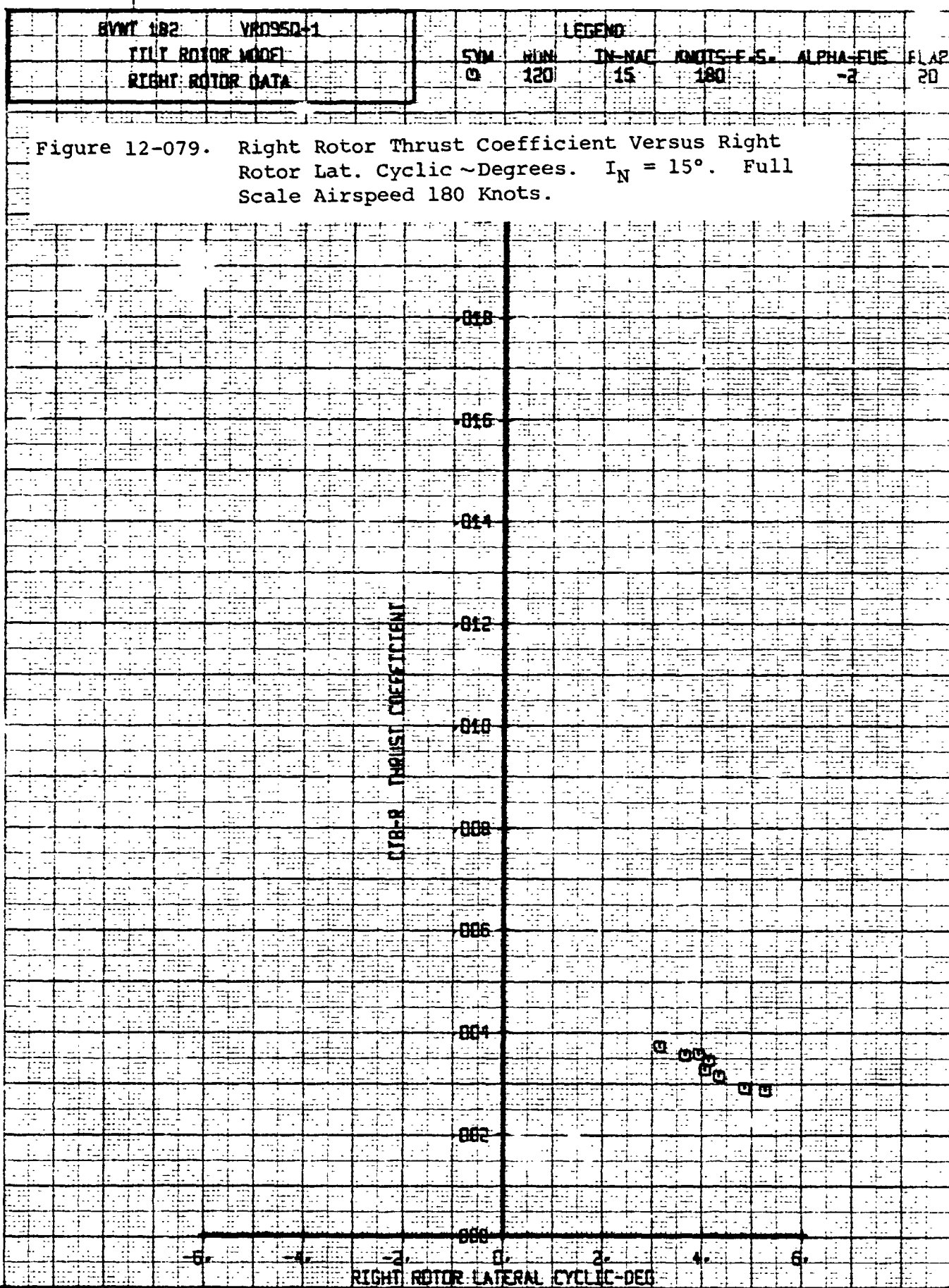


Figure 12-078. Left Rotor Yawing Moment Coefficient Versus
 Left Rotor Lat. Cyclic-Degrees. $I_{xx} = 15^\circ$
 Full Scale Airspeed 180 Knots.



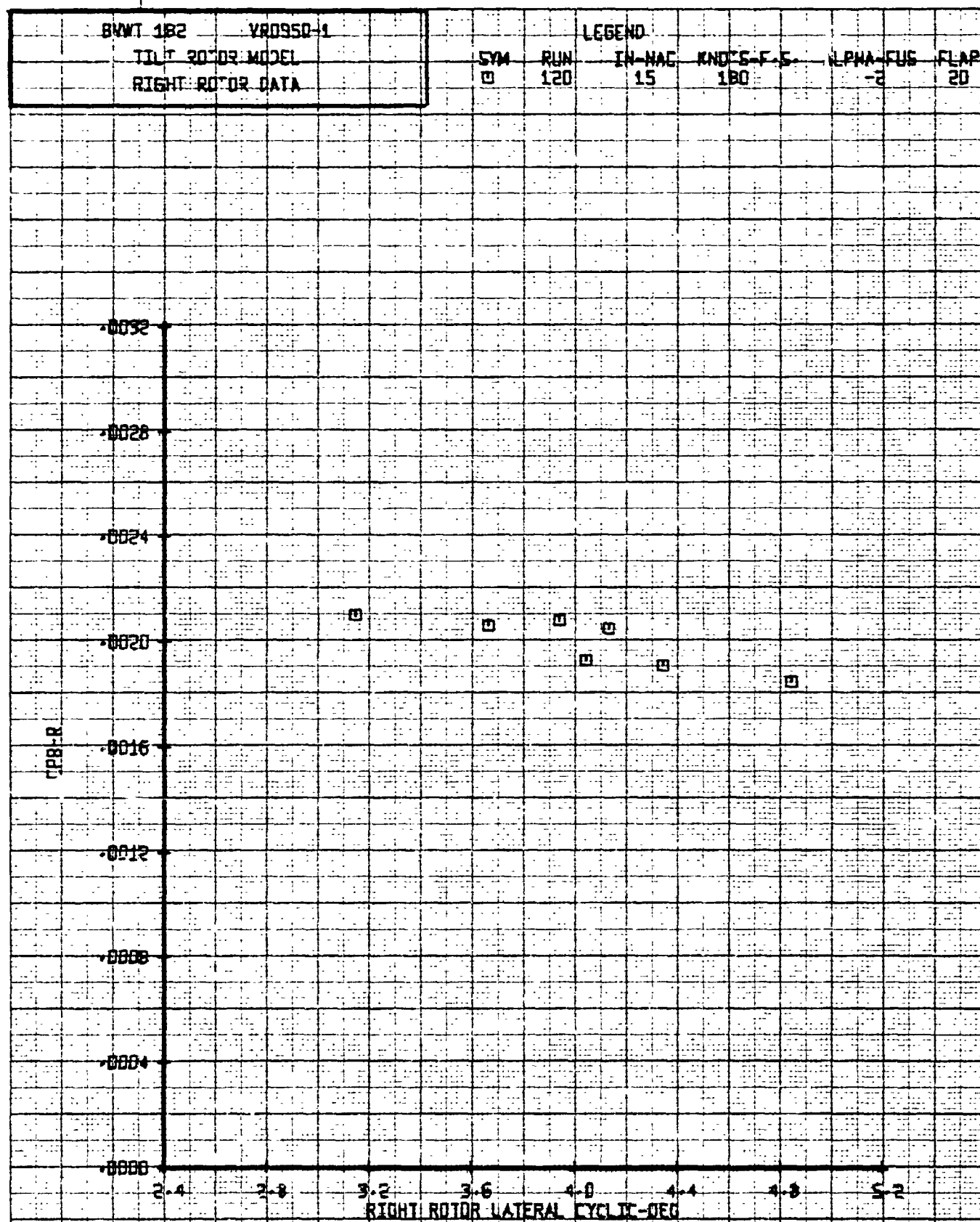


Figure 12-080. Right Rotor Power Coefficient Versus Right Rotor Lat Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

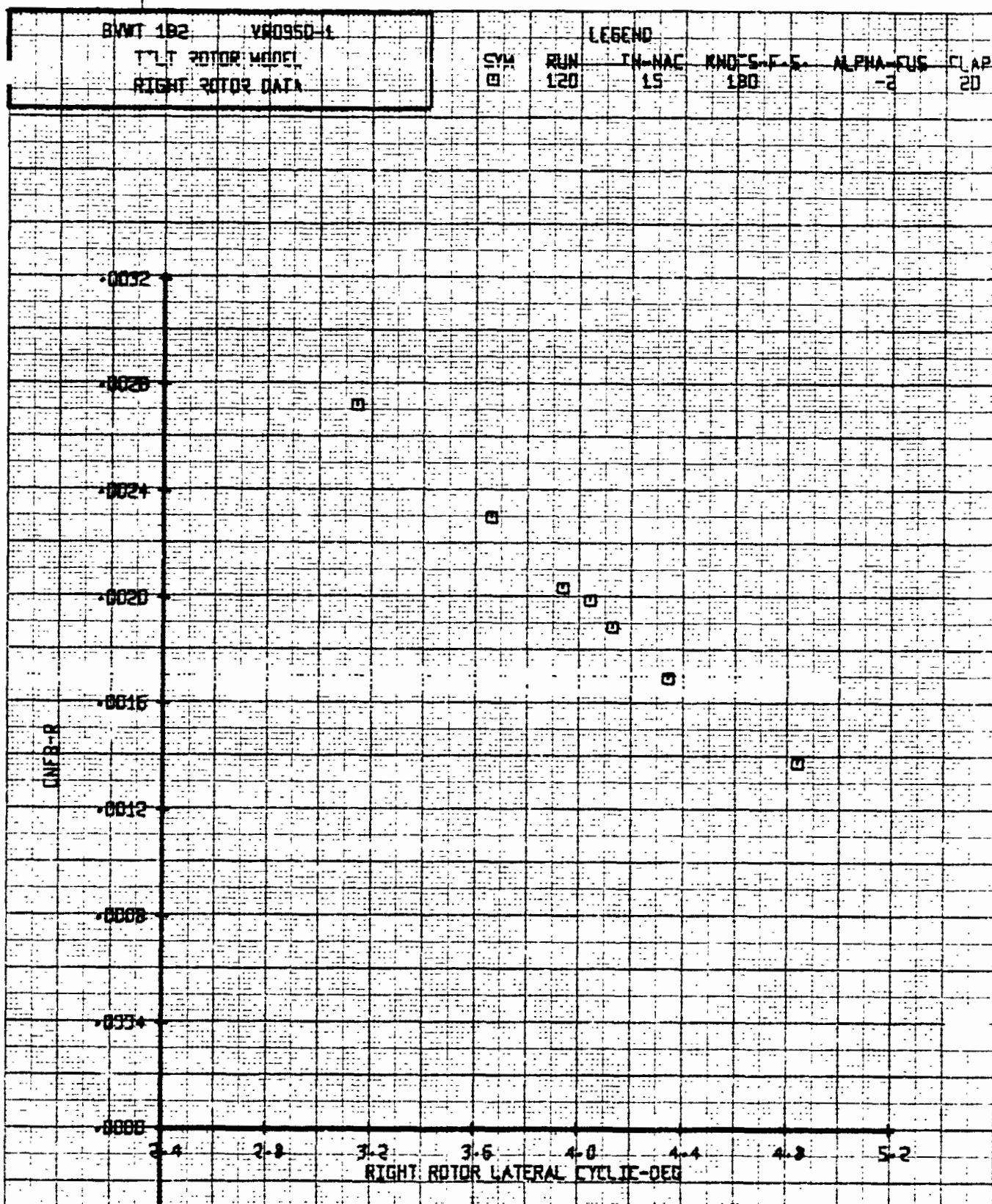


Figure 12-081. Right Rotor Normal Force Coefficient Versus Right Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

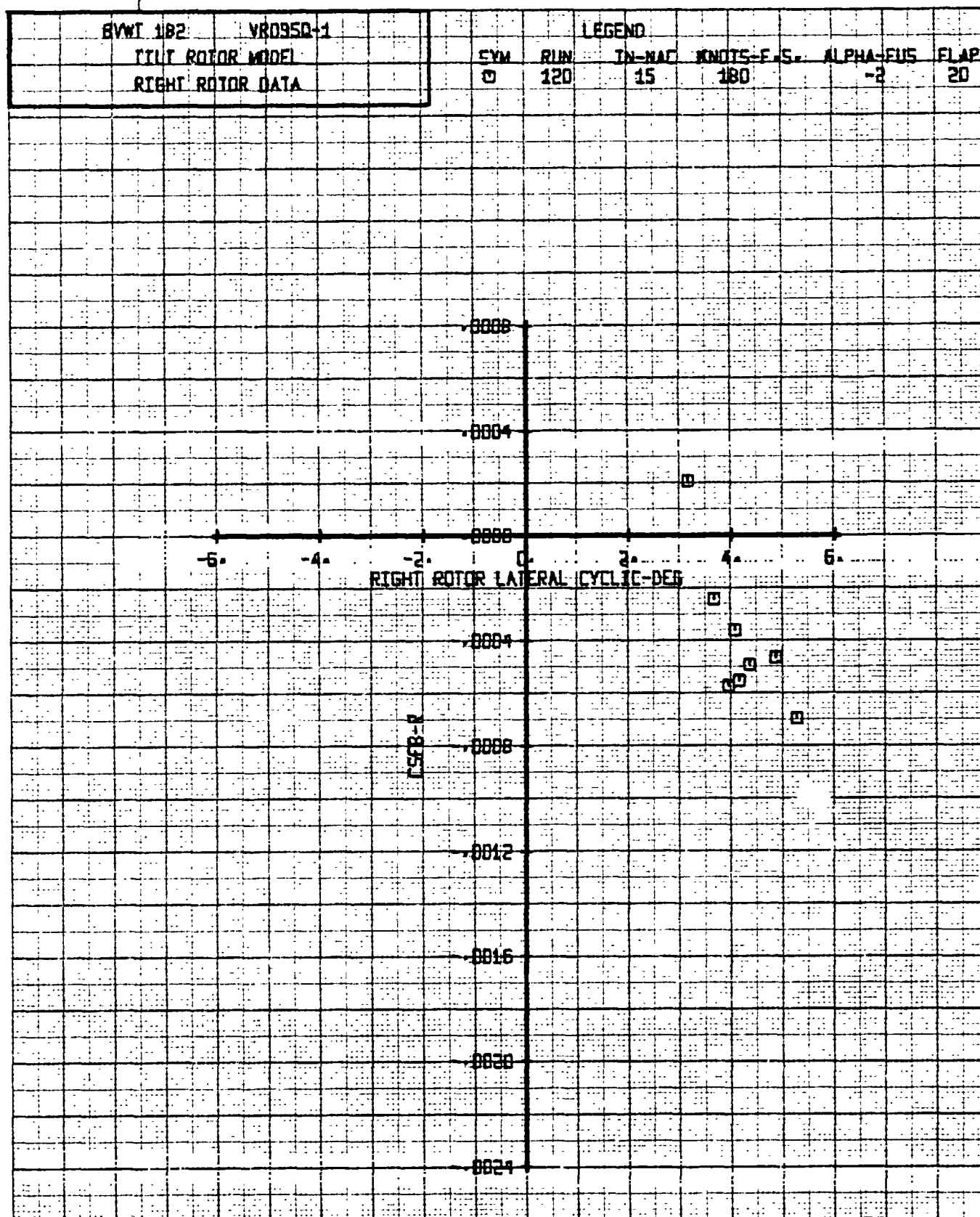
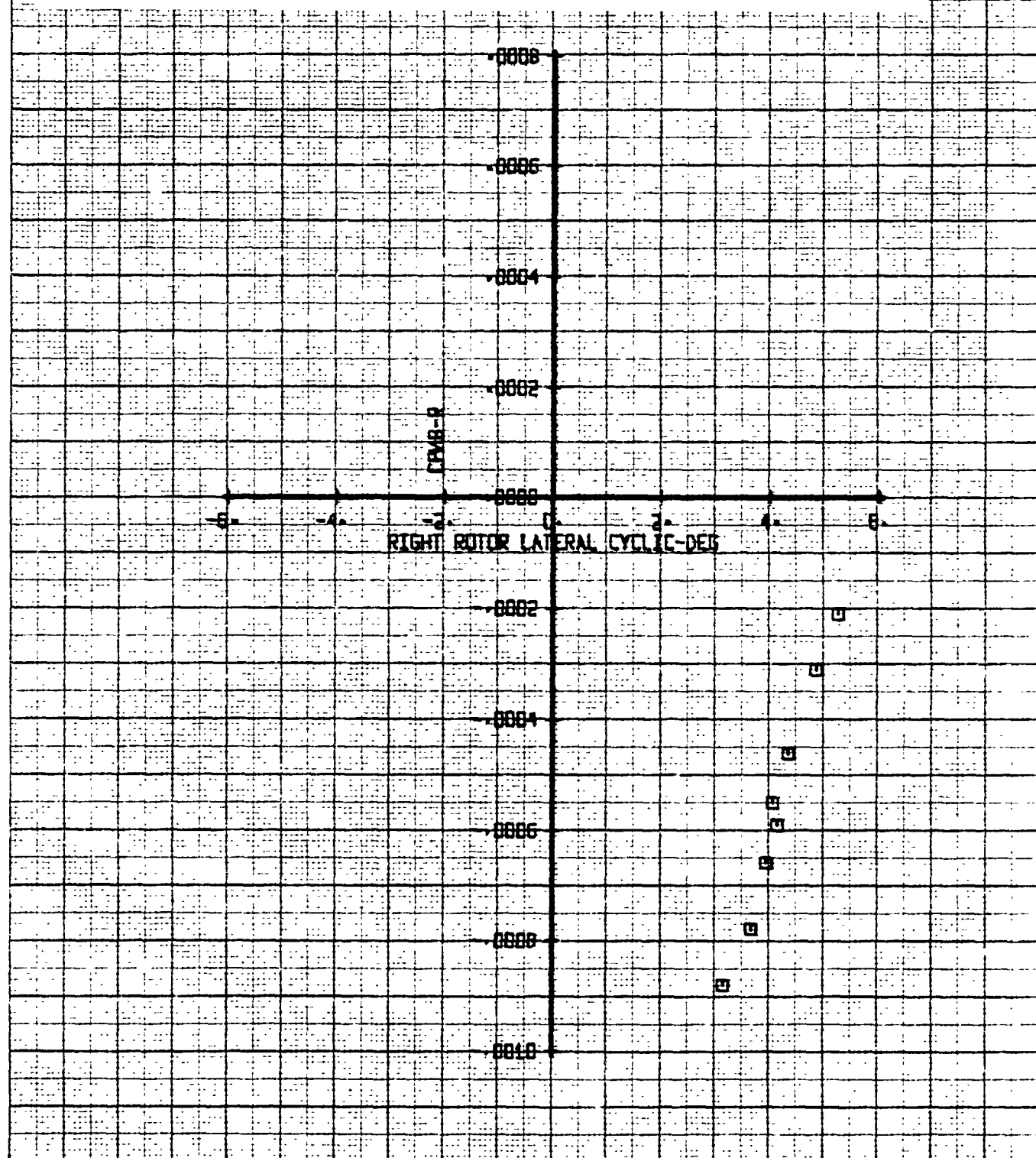


Figure 12-082. Right Rotor Side Force Coefficient Versus Right Rotor Lat. Cyclic -Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		0	120	15	180	-2
						20

Figure 12-083. Right Rotor Pitching Moment Coefficient Versus Right Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



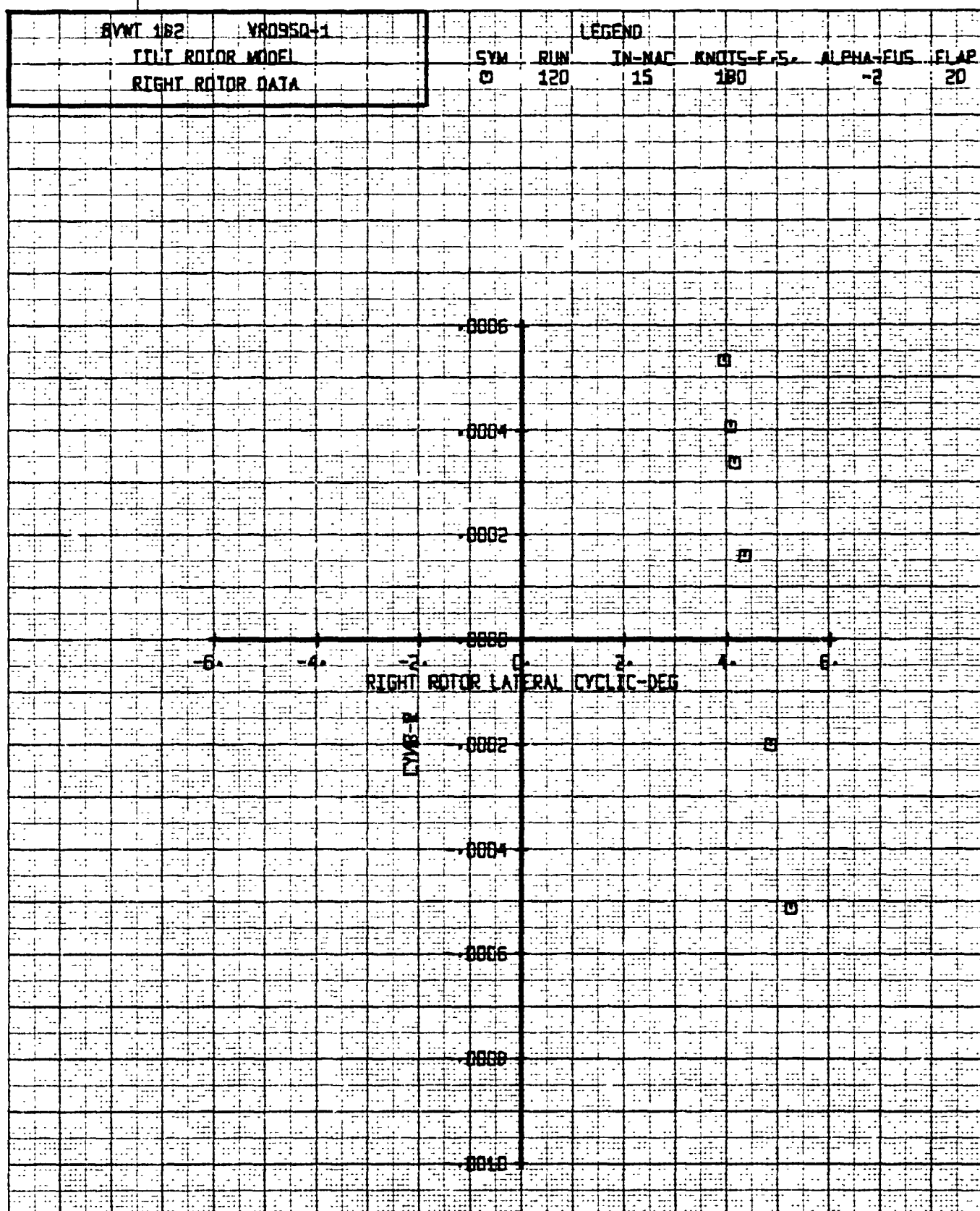


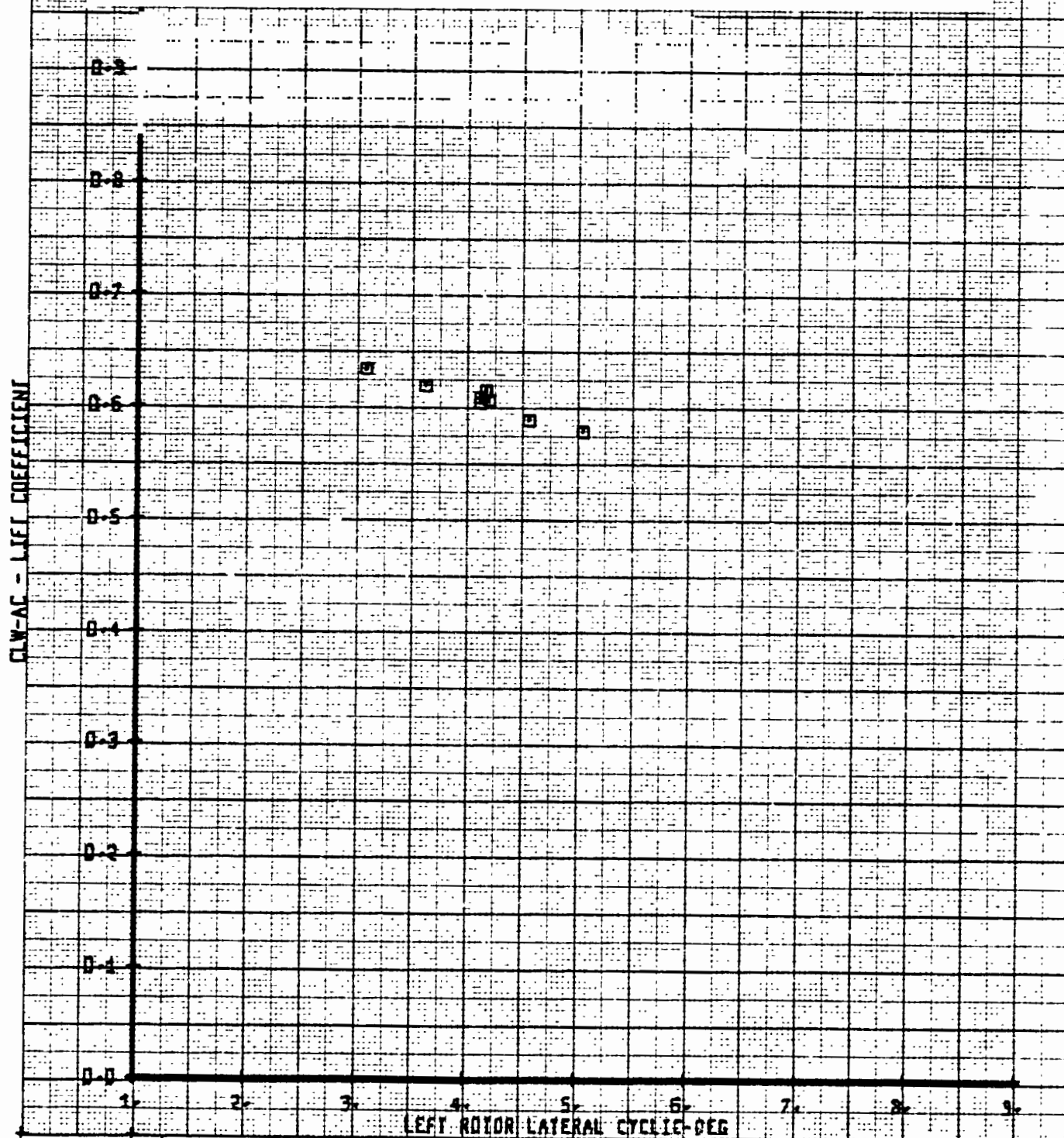
Figure 12-084. Right Rotor Yawing Moment Coefficient Versus Right Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 kts.

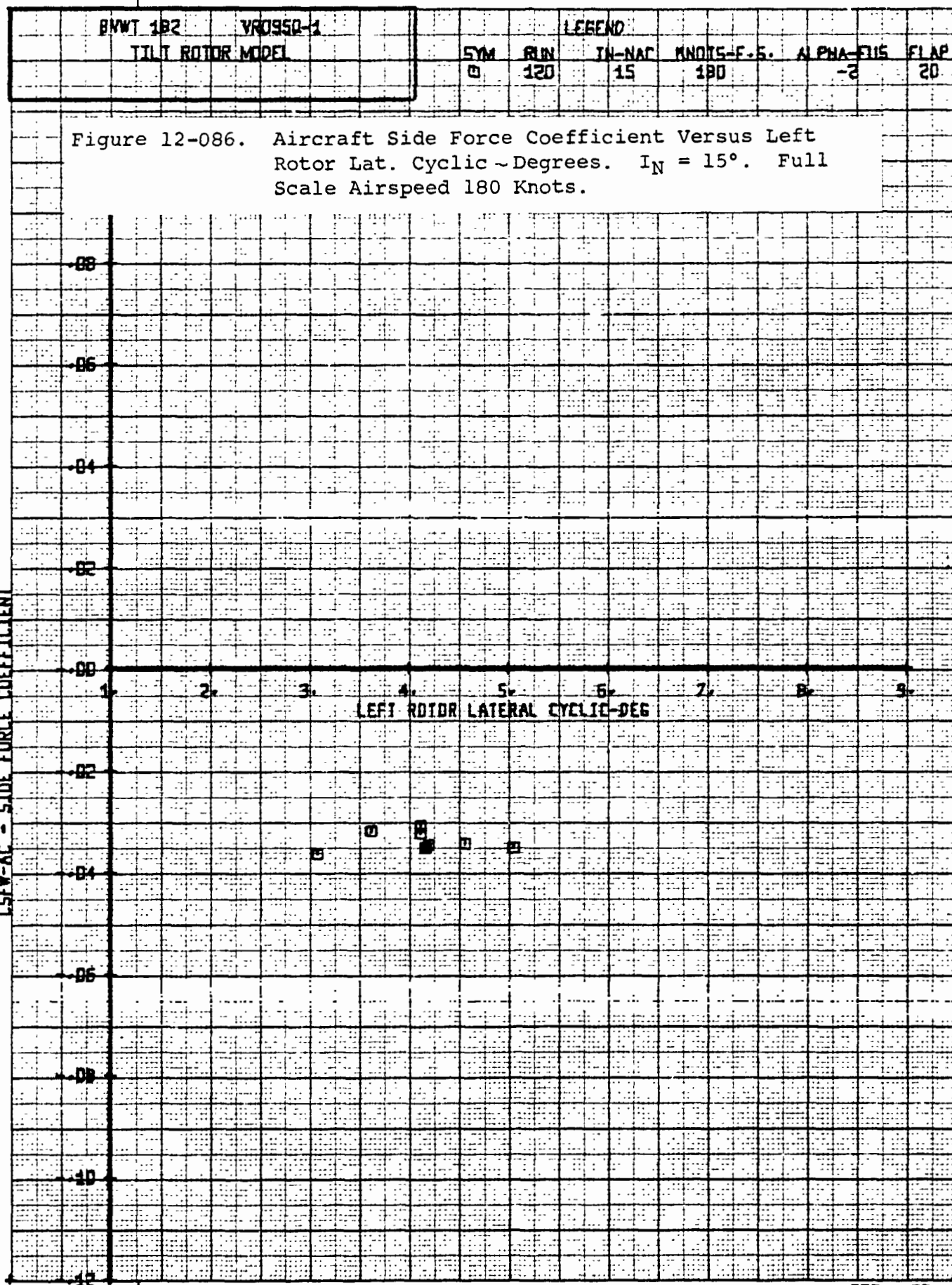
12-085

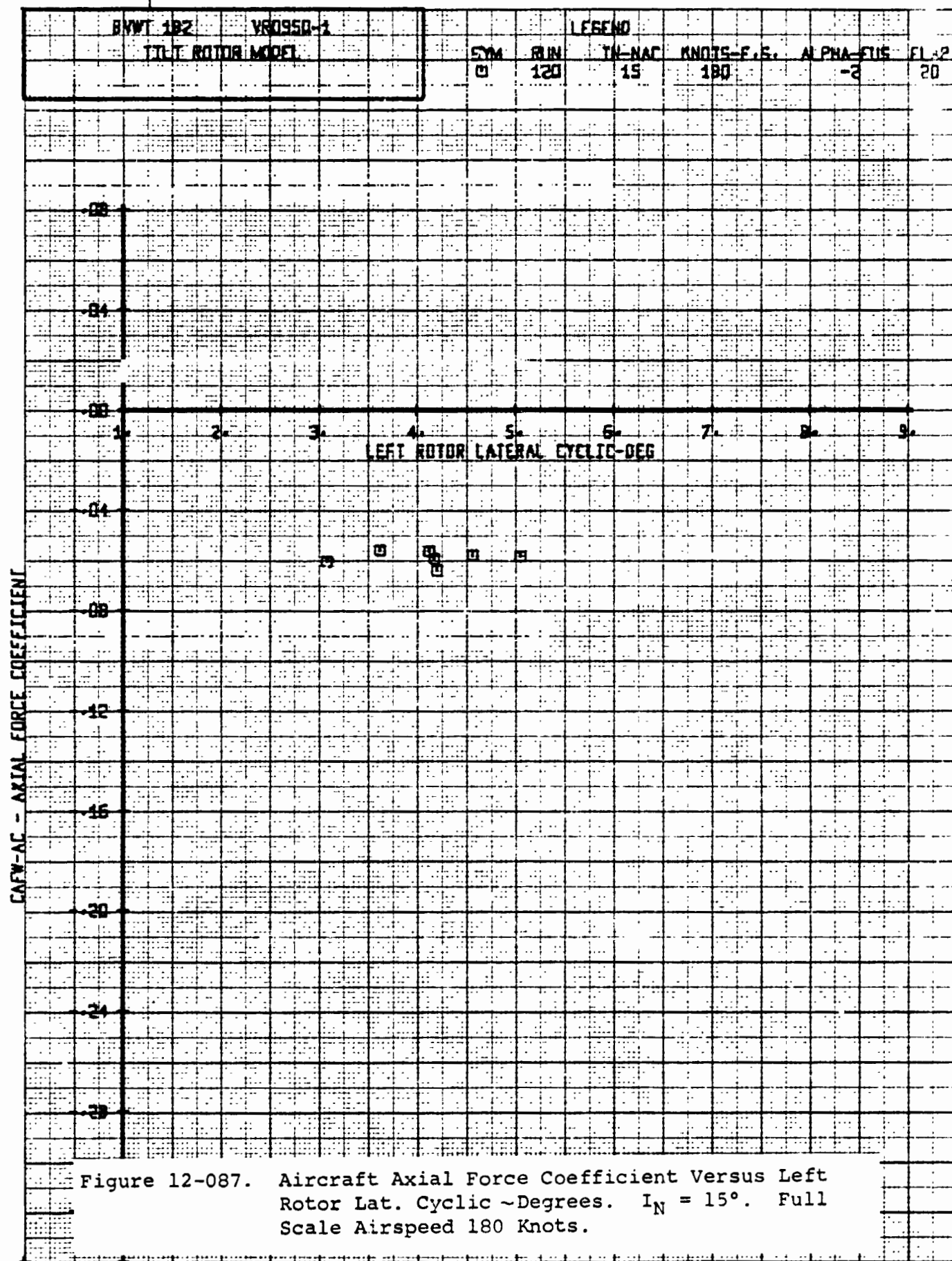
D238-10000-3

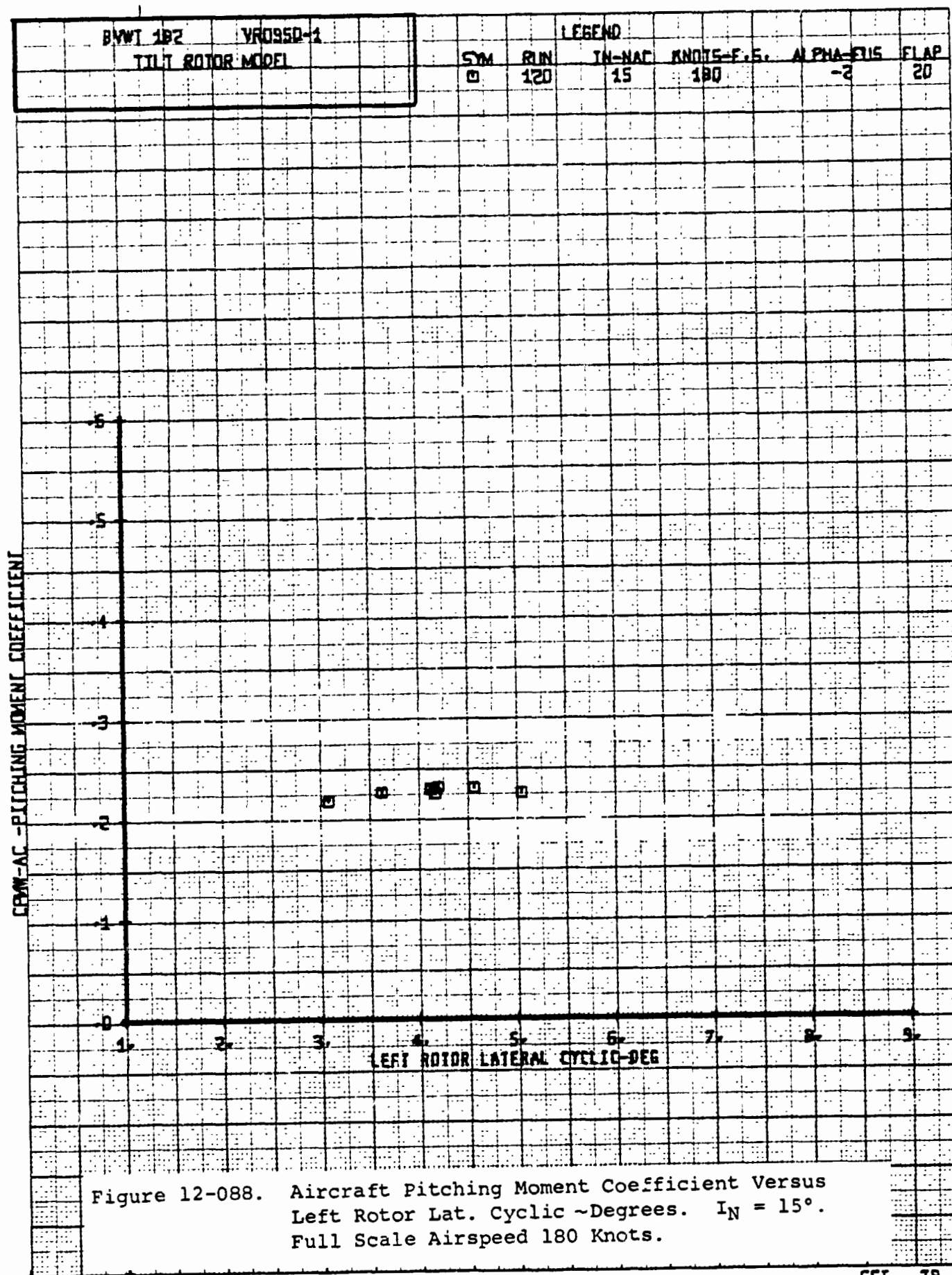
BVWT 182		VR0950-1		LEGEND				
TILT ROTOR MODEL				SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-CLS
				□	120	15	180	-2
								FLAP 20

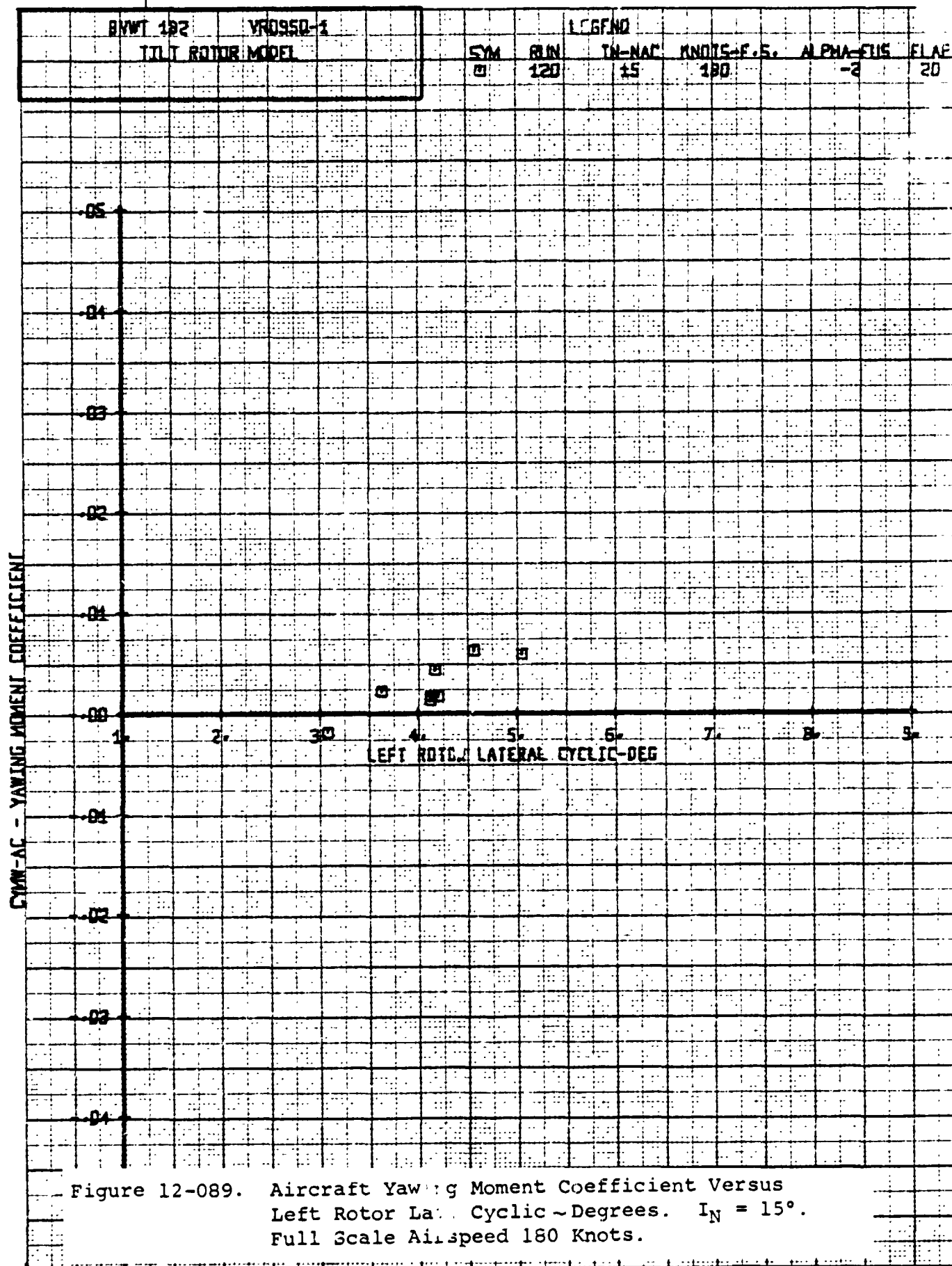
Figure 12-085. Aircraft Lift Coefficient Versus Left Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

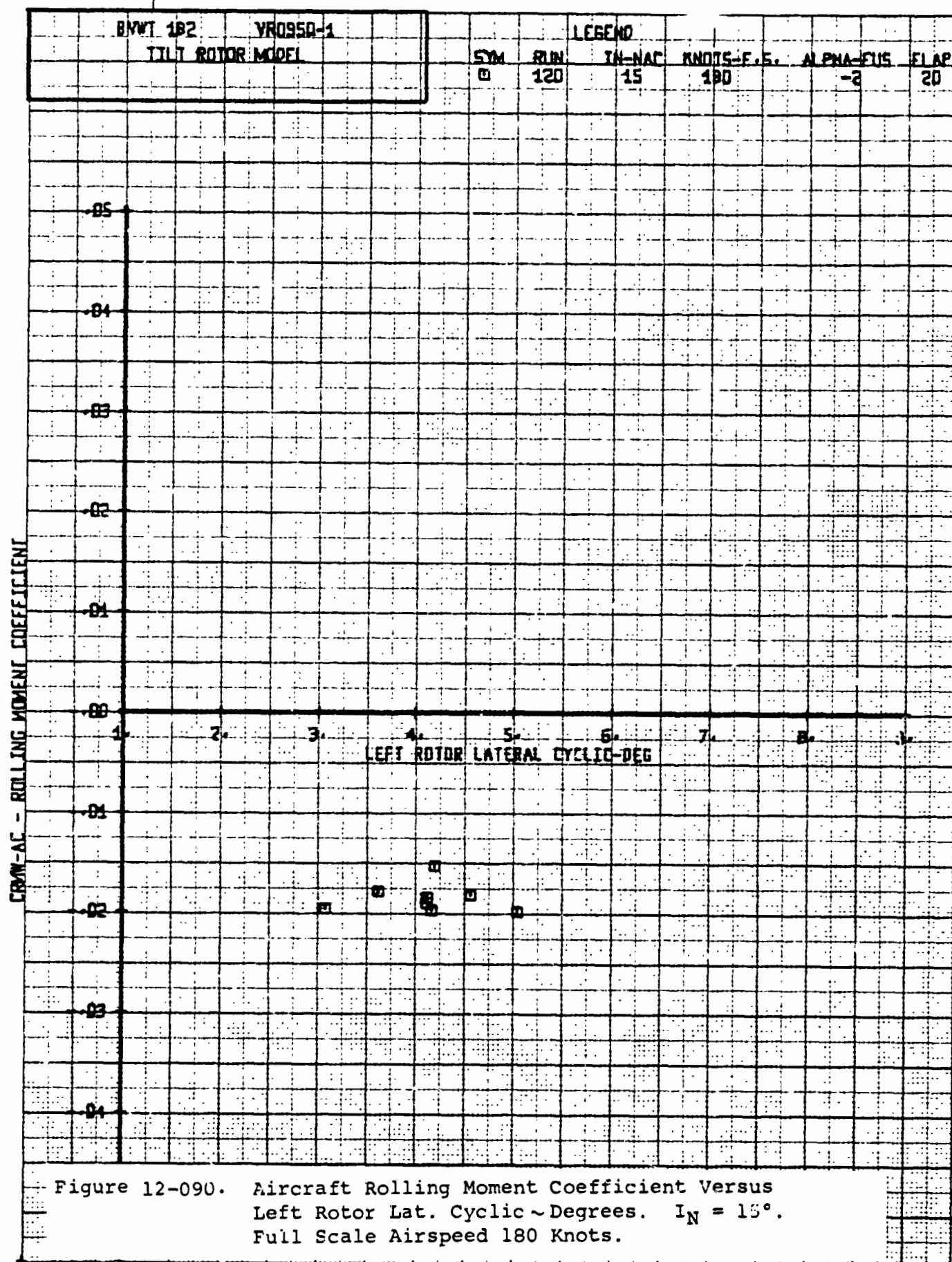












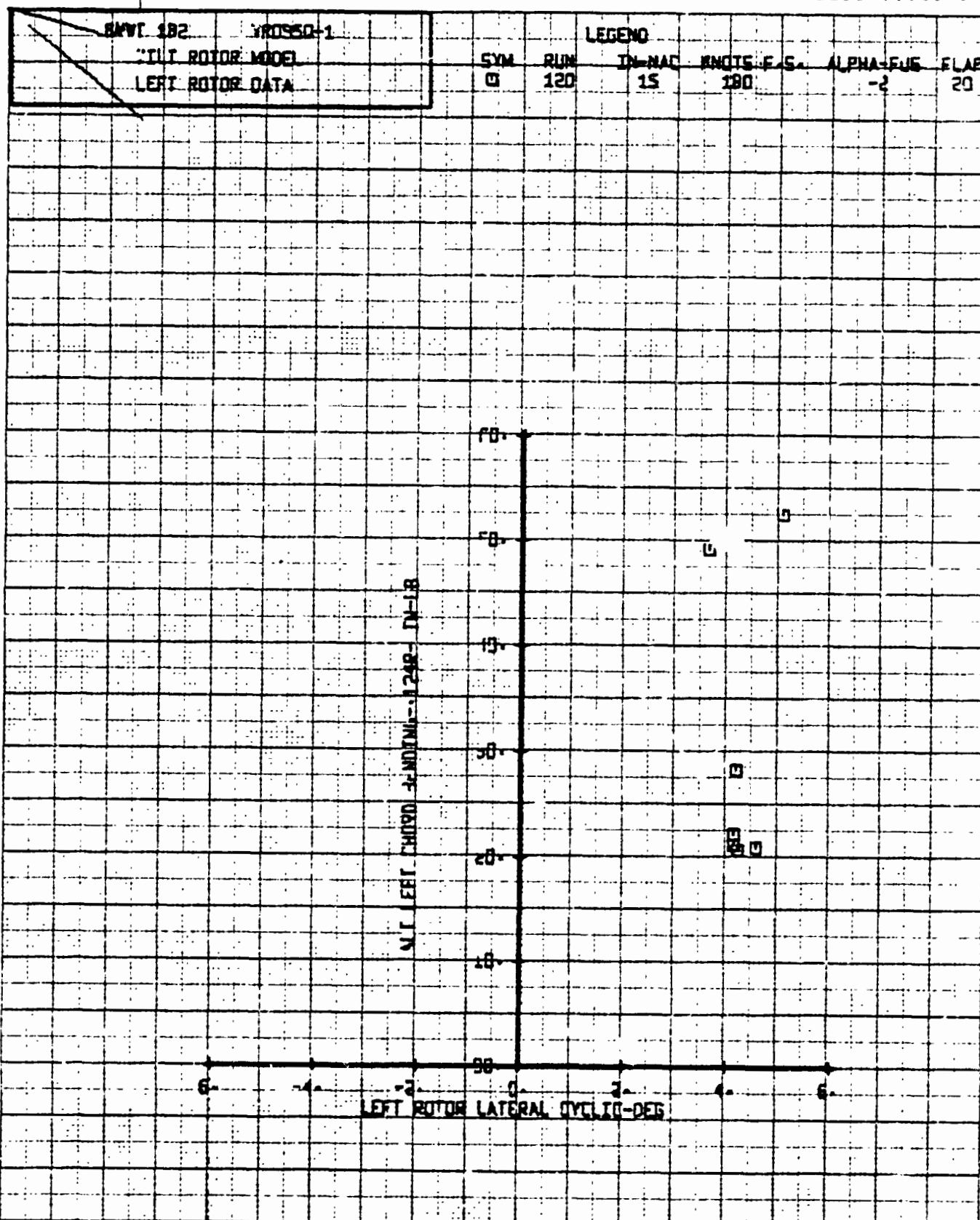
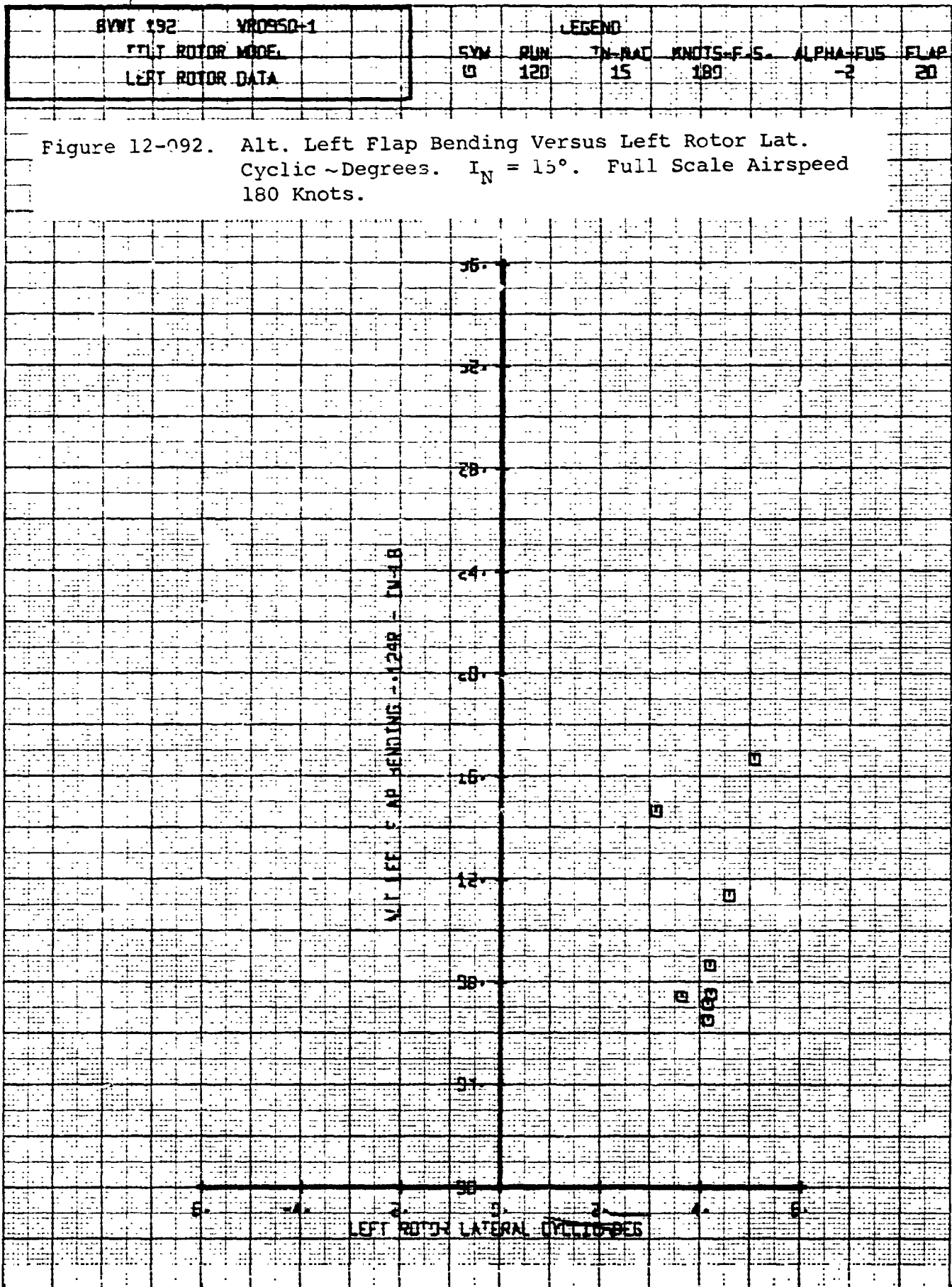
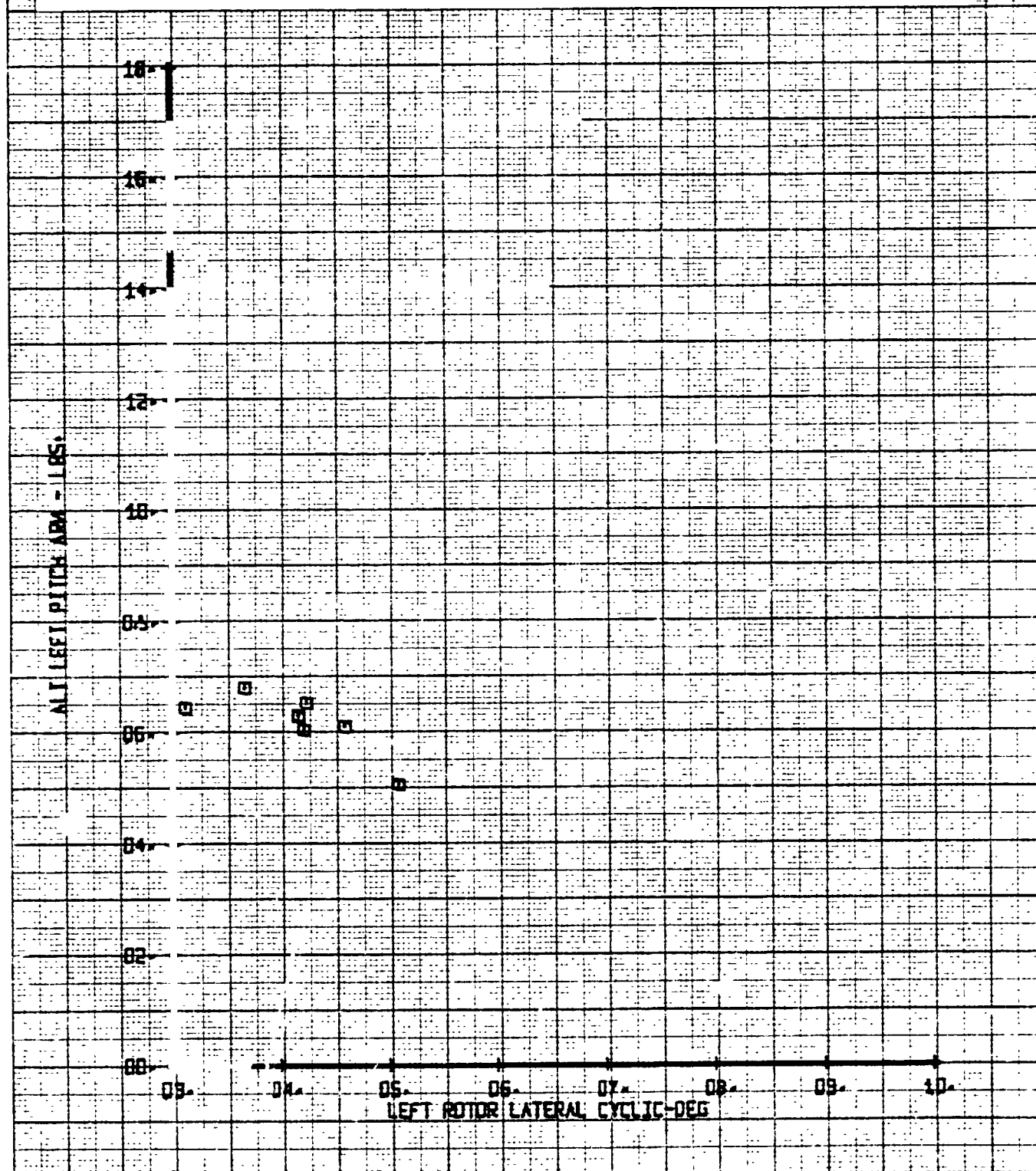


Figure 12-091. Alt. Left Chord Bending Versus Left Rotor Lat. Cyclic -Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BYWT 182	VR0950-1	SYM	SYM	LEGEND					
TTT ENTIRE MODEL		120	15	180	-2	20			
132 ROTOR DATA									

Figure 12-093. Alt. Left Pitch Link Load Versus Left Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



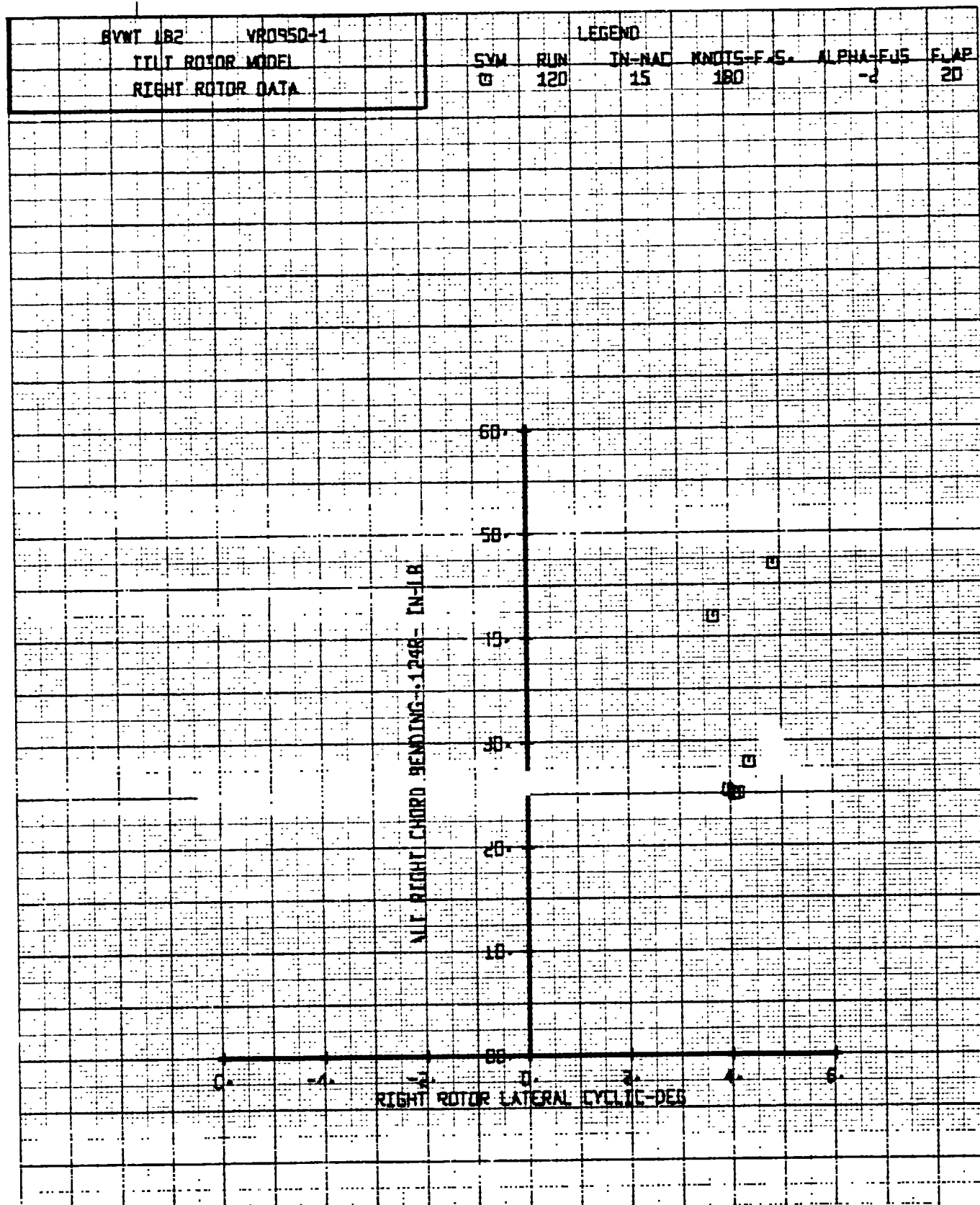
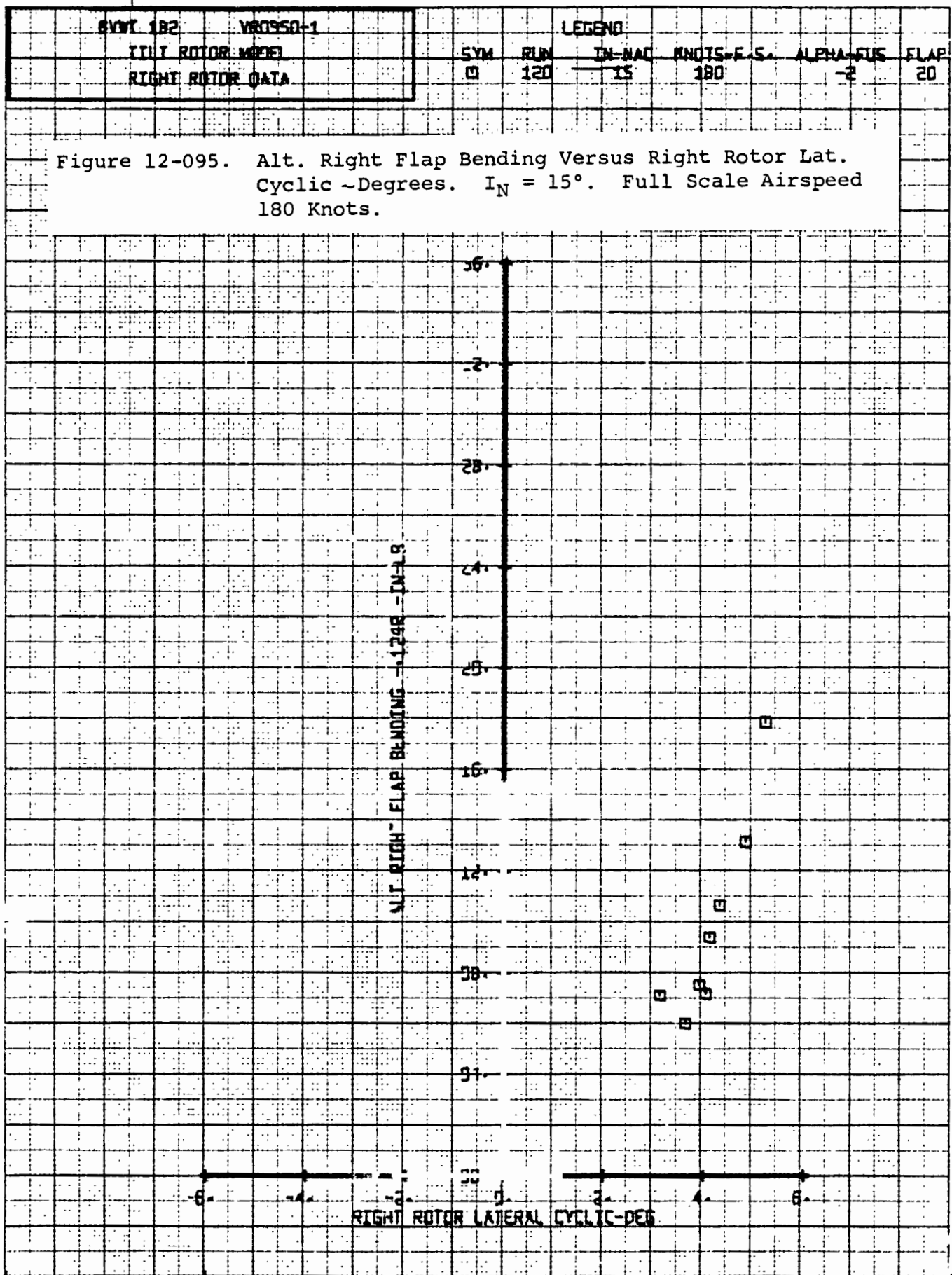
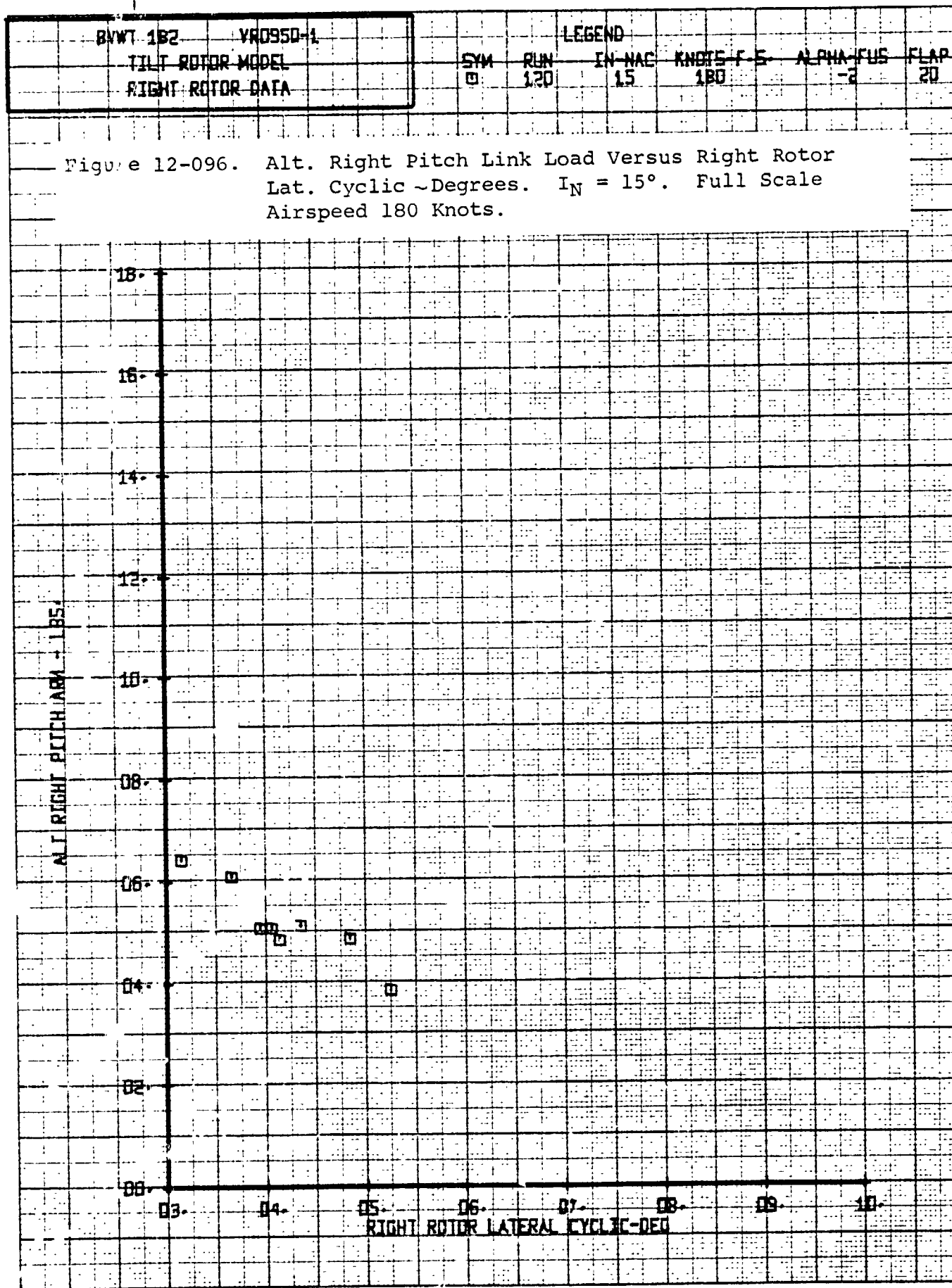


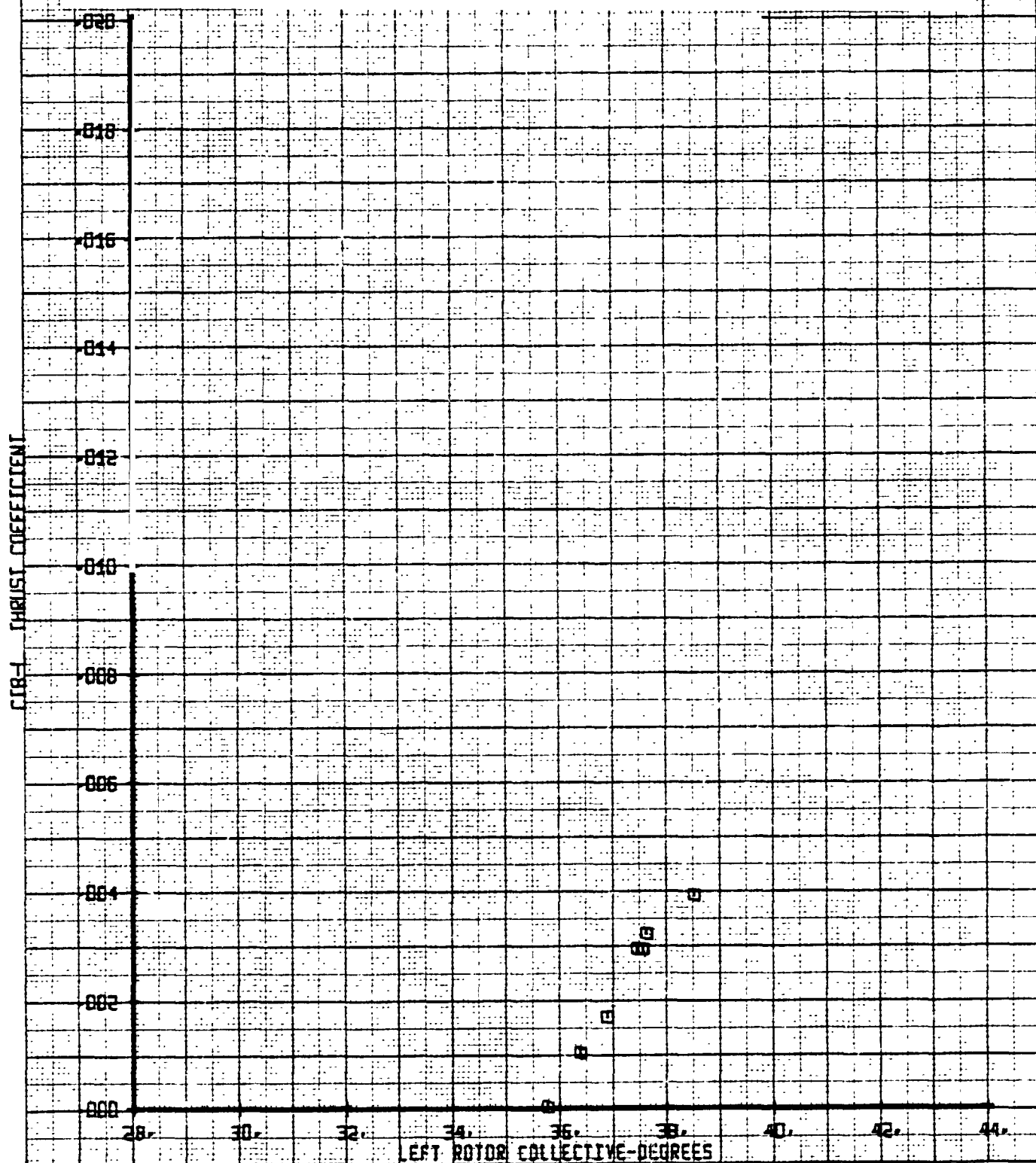
Figure 12-094. Alt. Right Chord Bending Versus Right Rotor Lat. Cyclic ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





BVWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-RAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	123	15	180	-2
						20

Figure 12-097. Left Rotor Thrust Coefficient Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



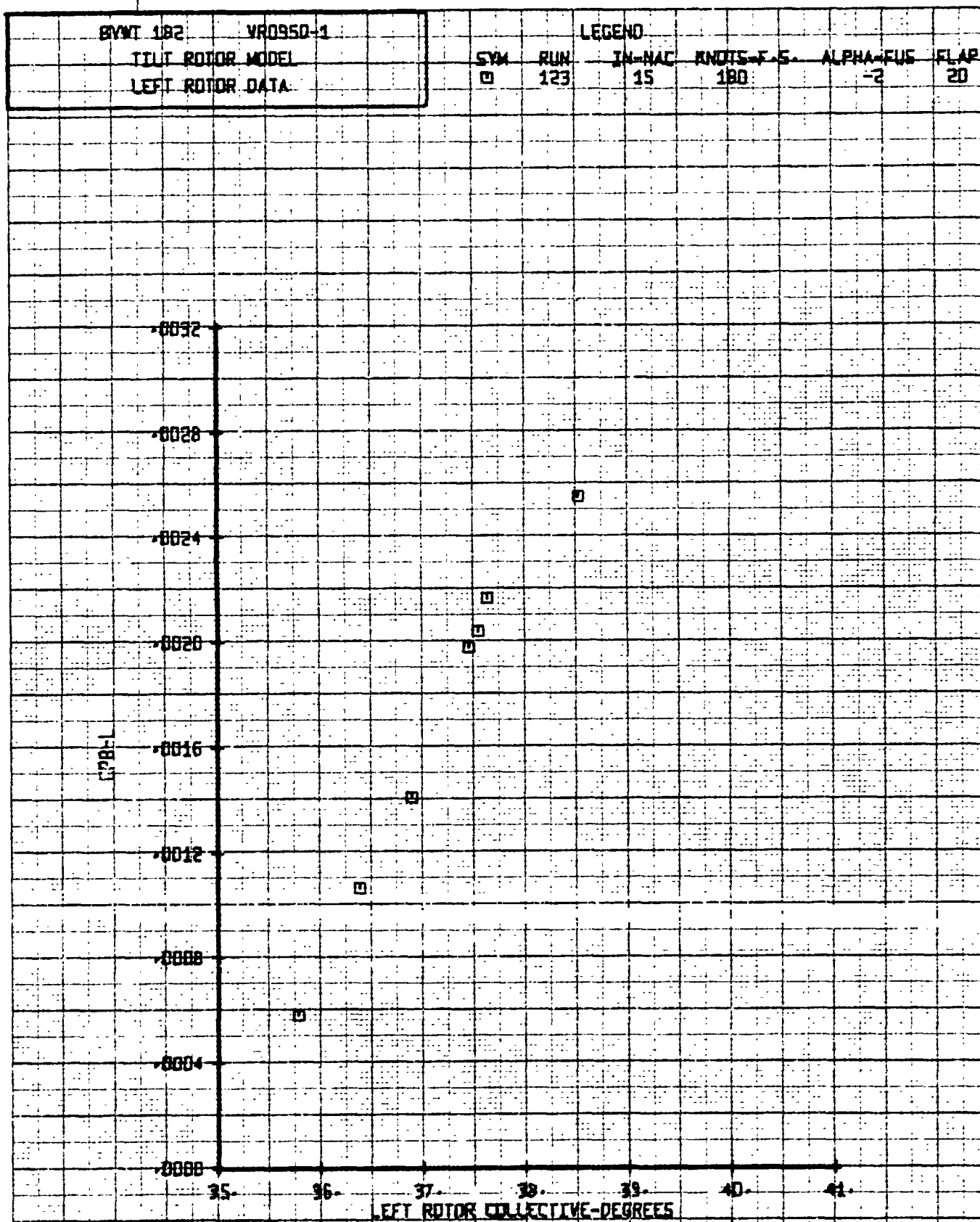


Figure 12-098. Left Rotor Power Coefficient Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

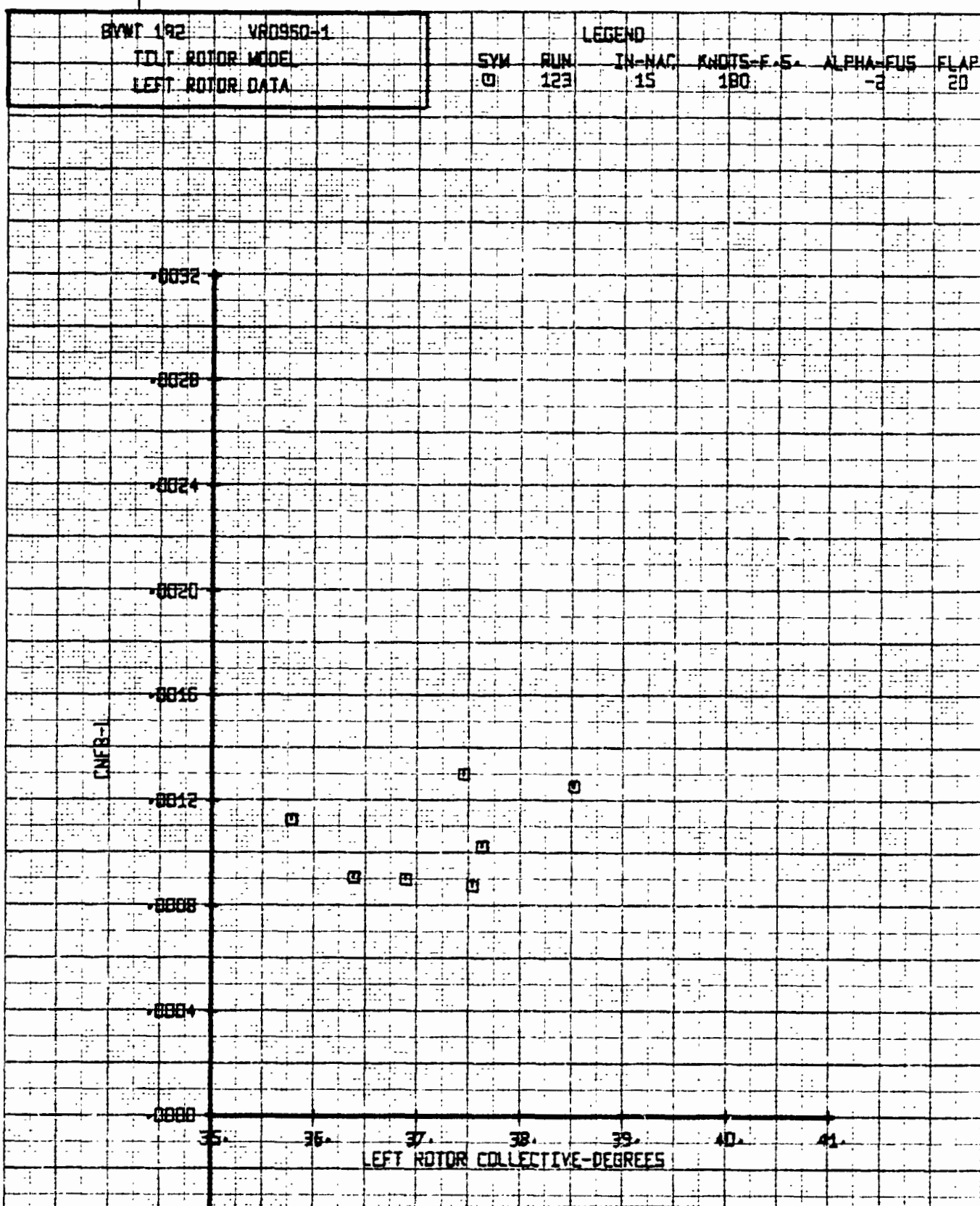
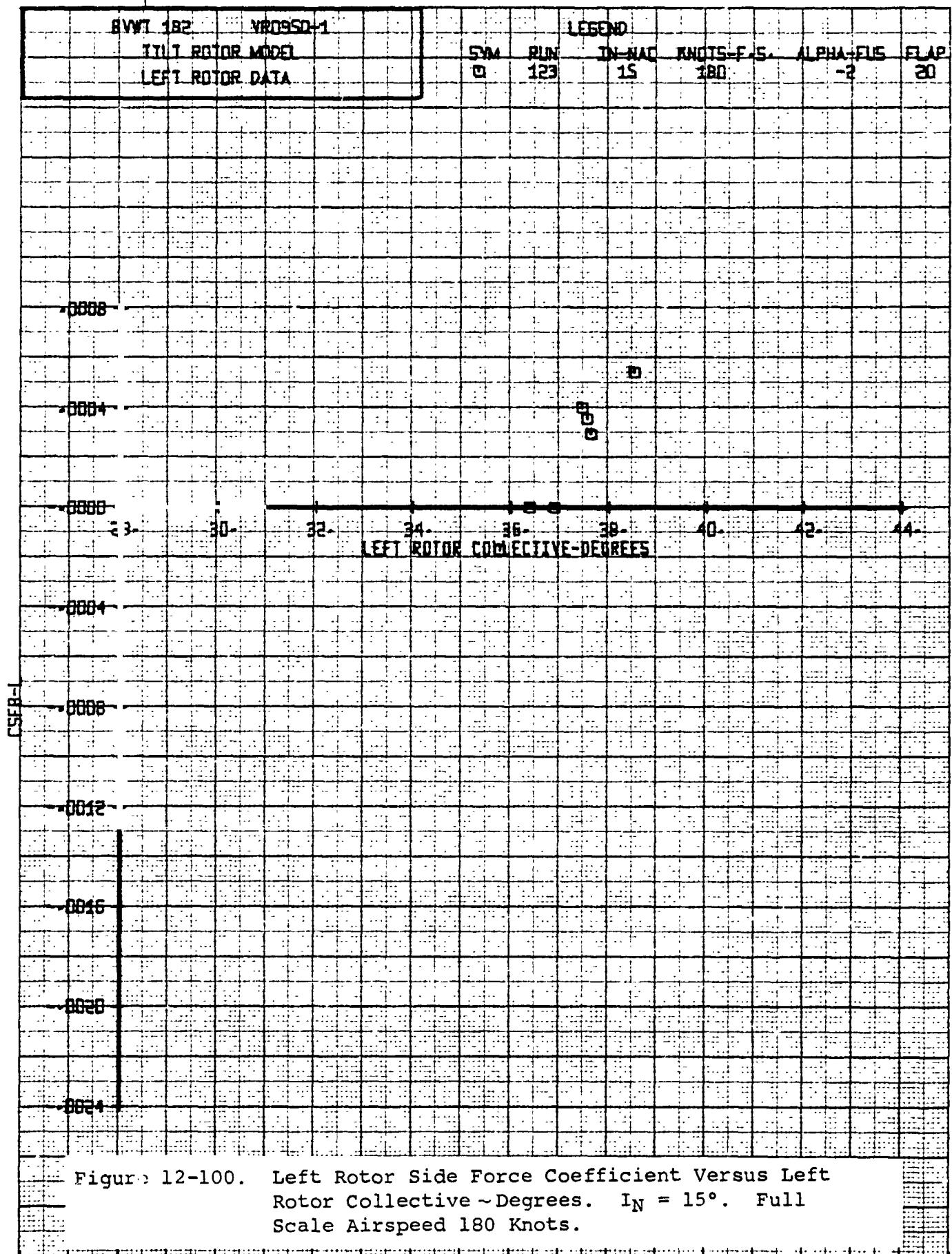
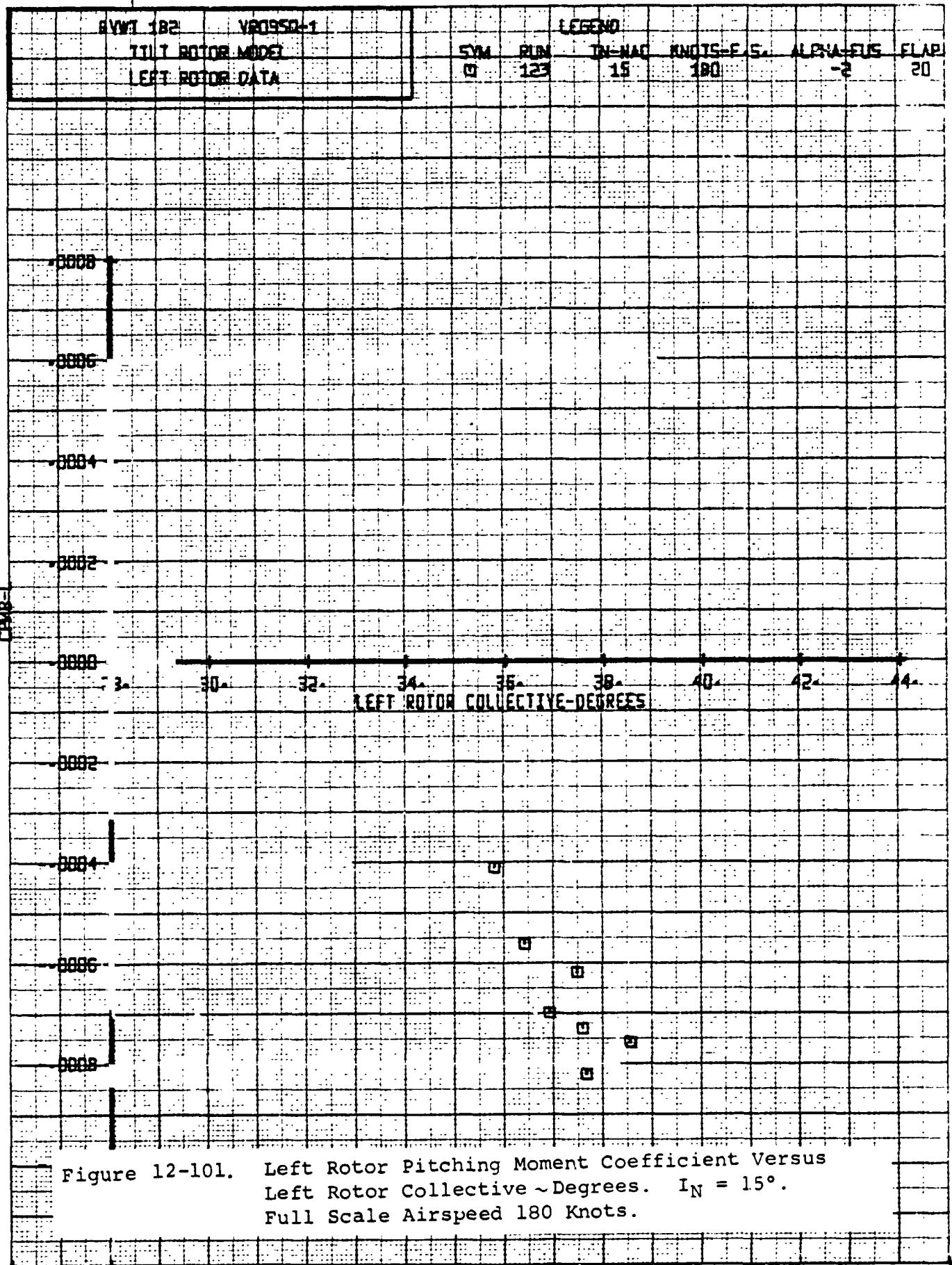
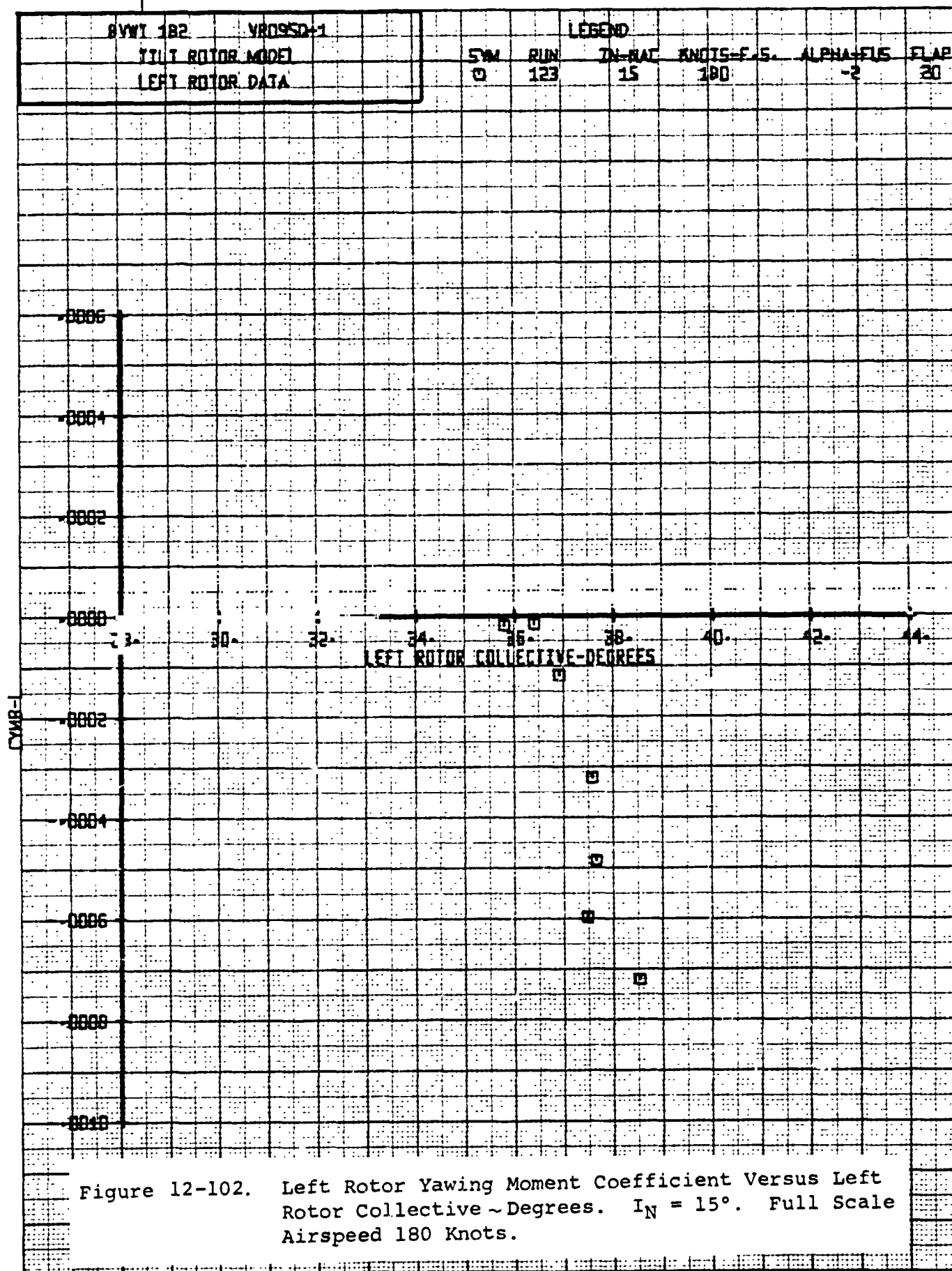
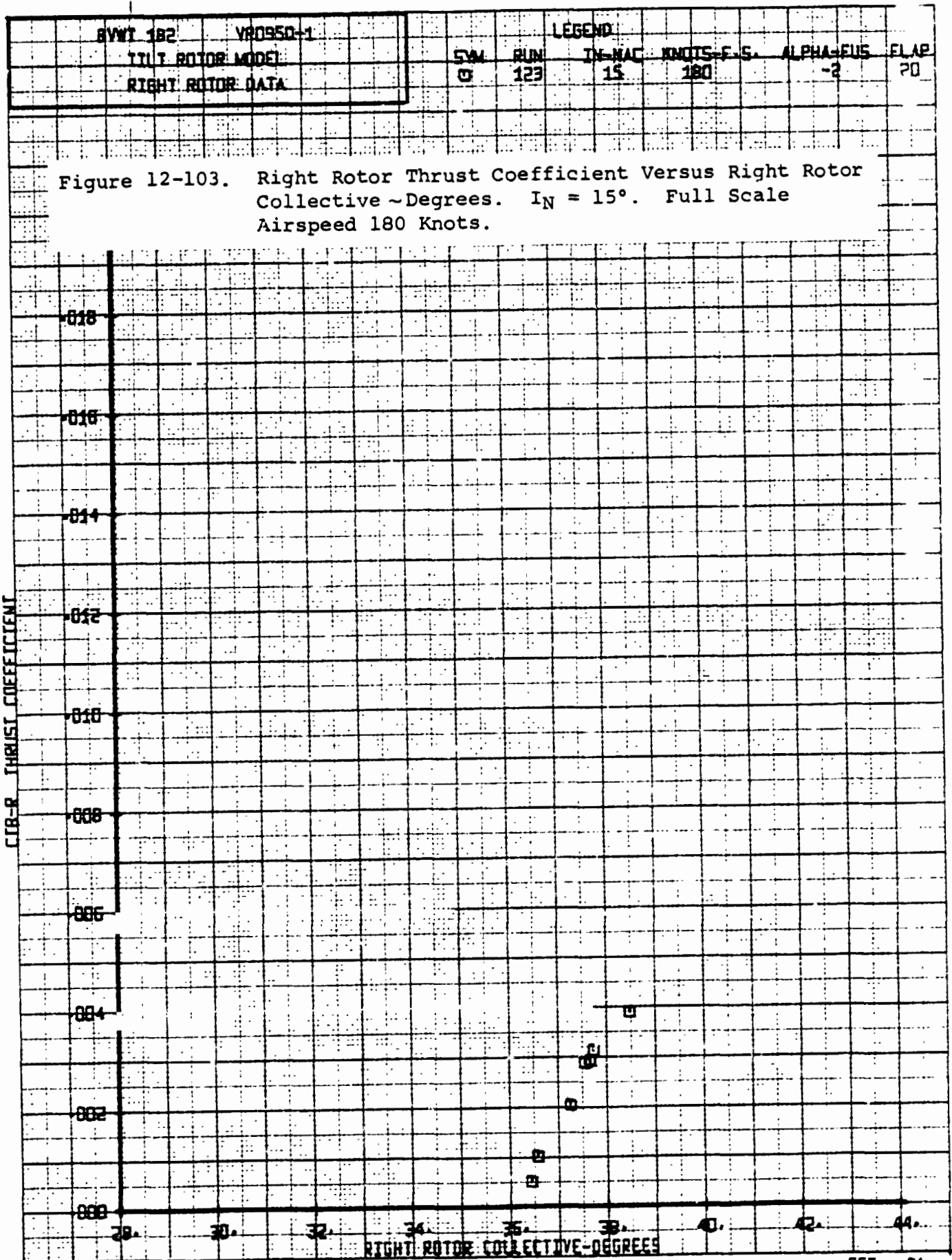


Figure 12-099. Left Rotor Normal Force Coefficient Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.









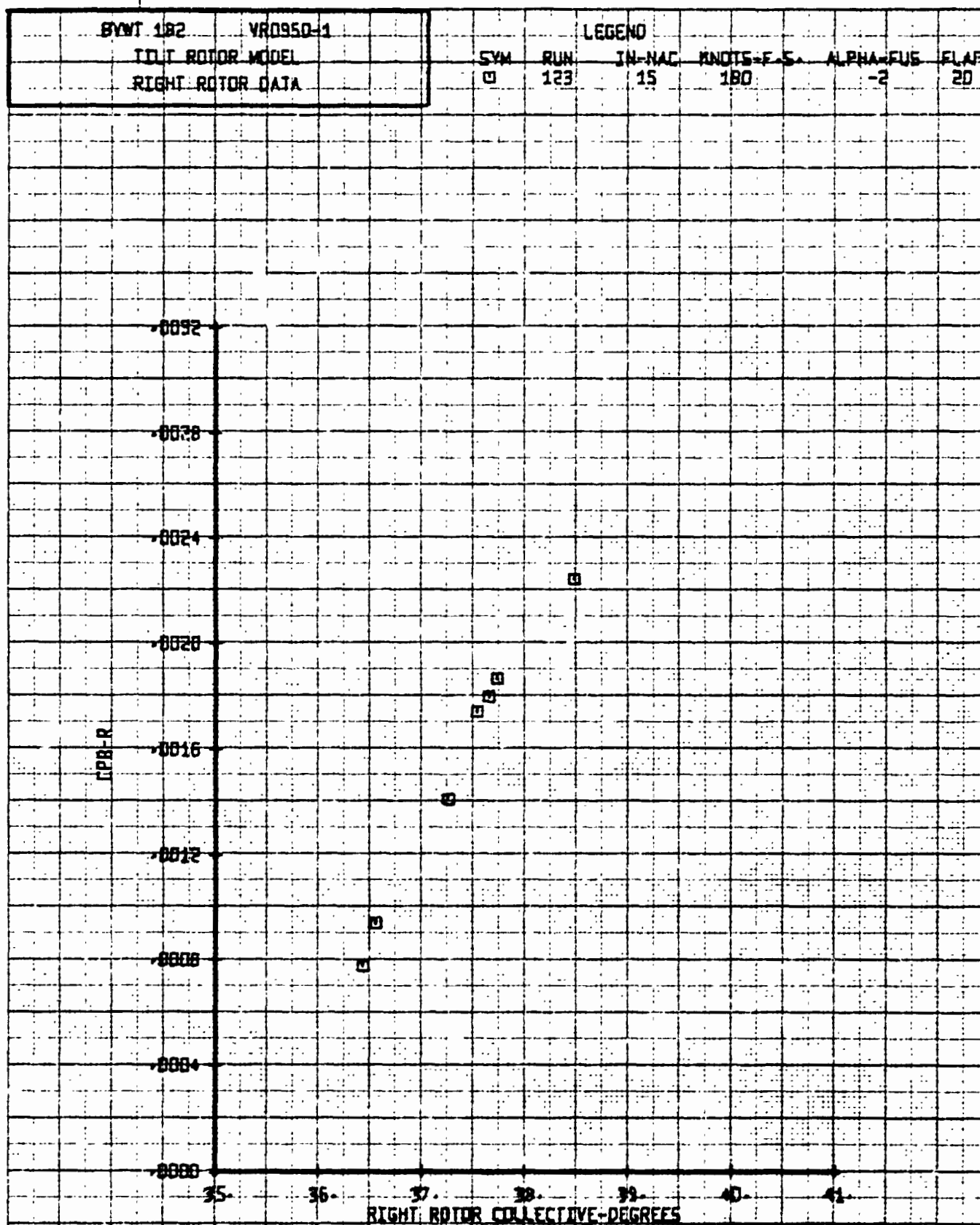


Figure 12-104. Right Rotor Power Coefficient Versus Right Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

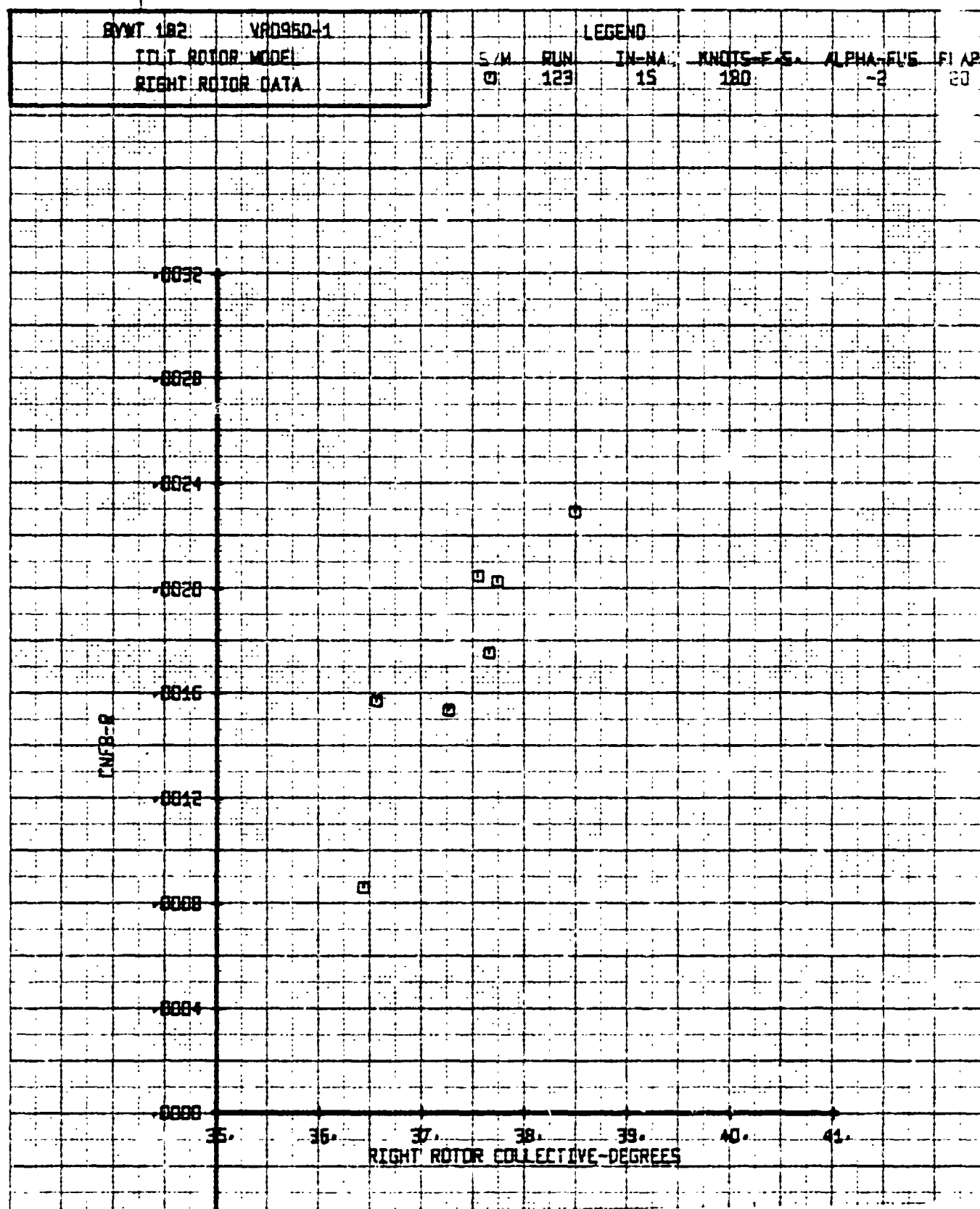
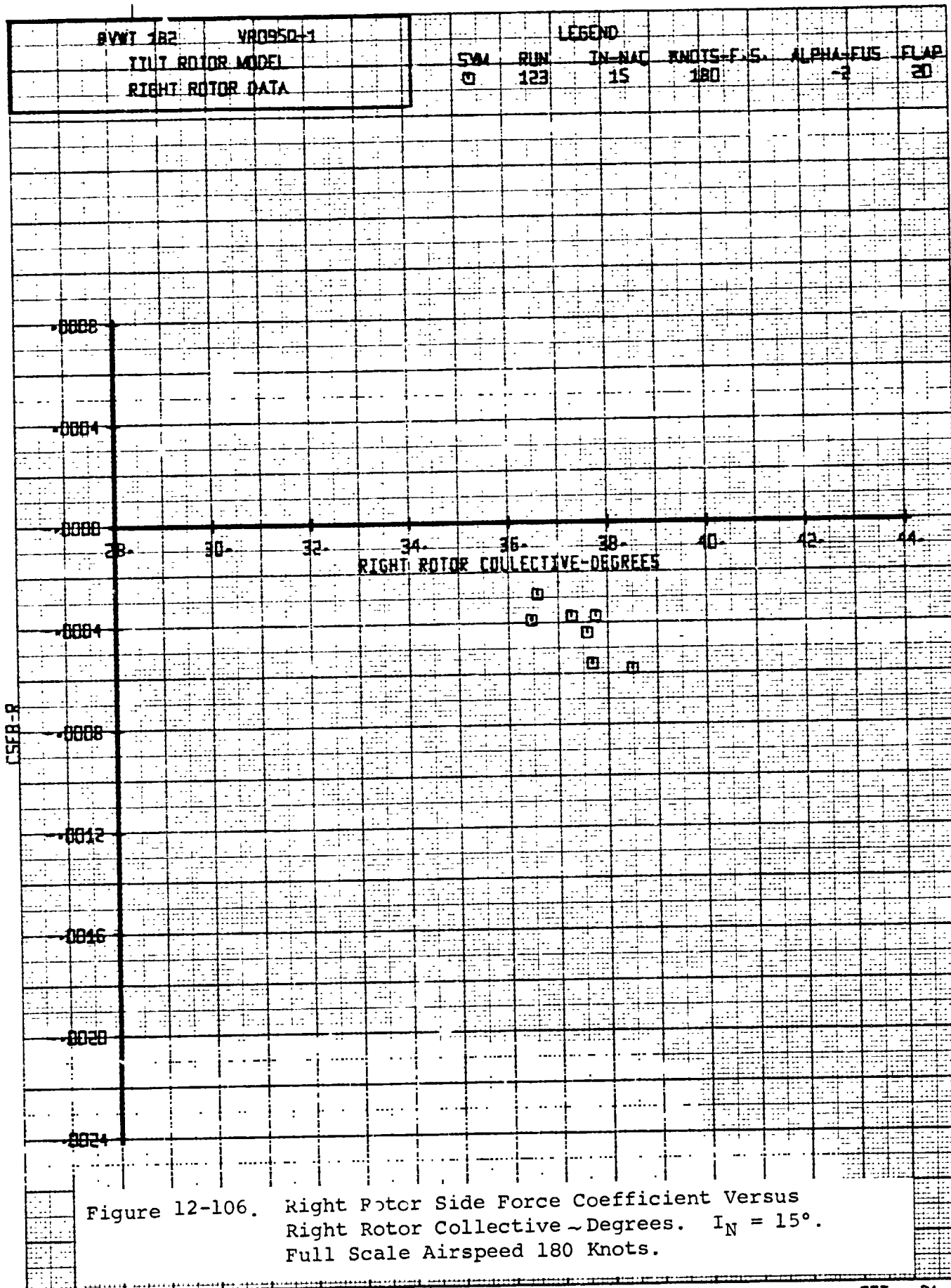


Figure 12-105. Right Rotor Normal Force Coefficient Versus Right Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



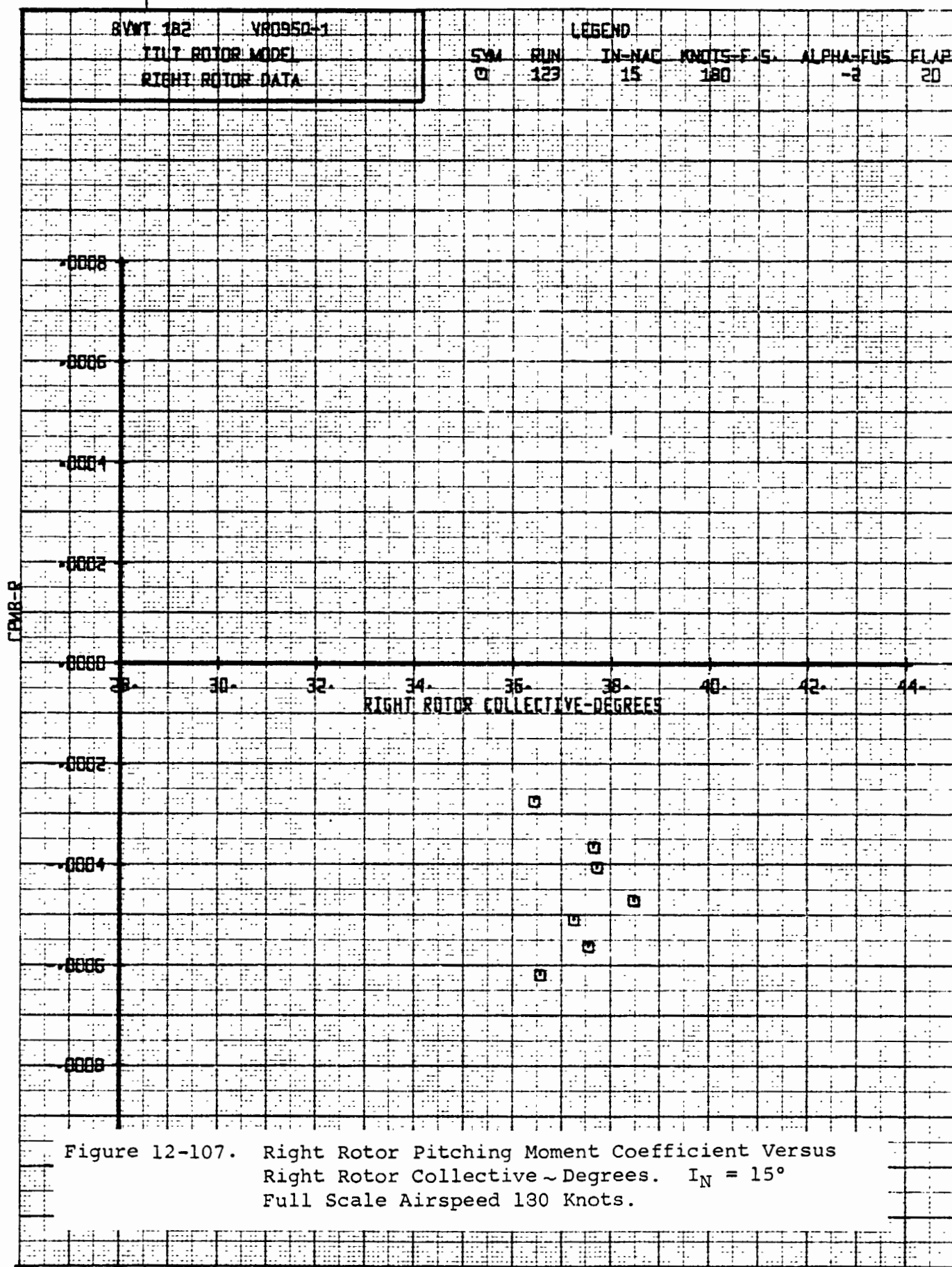
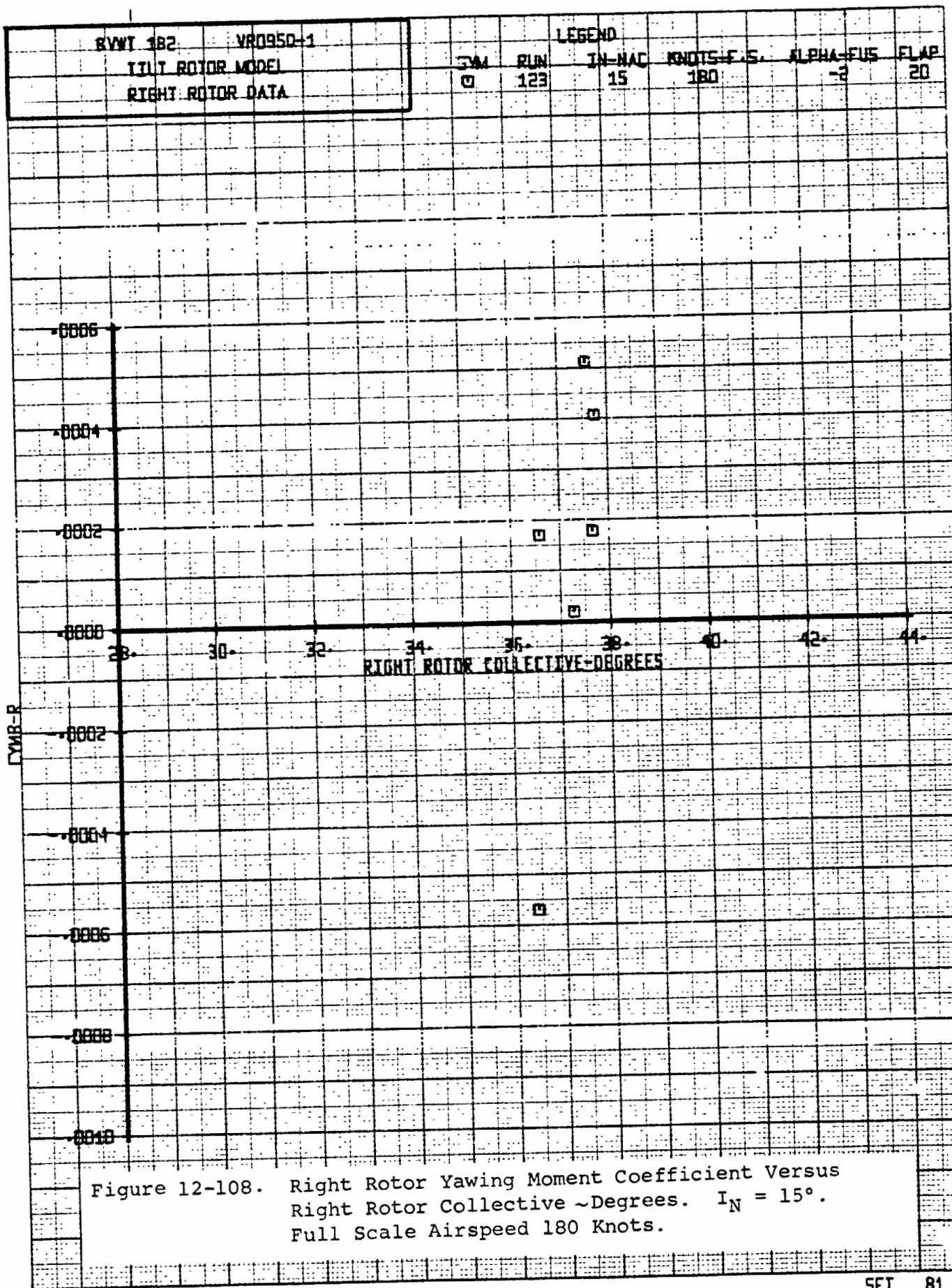
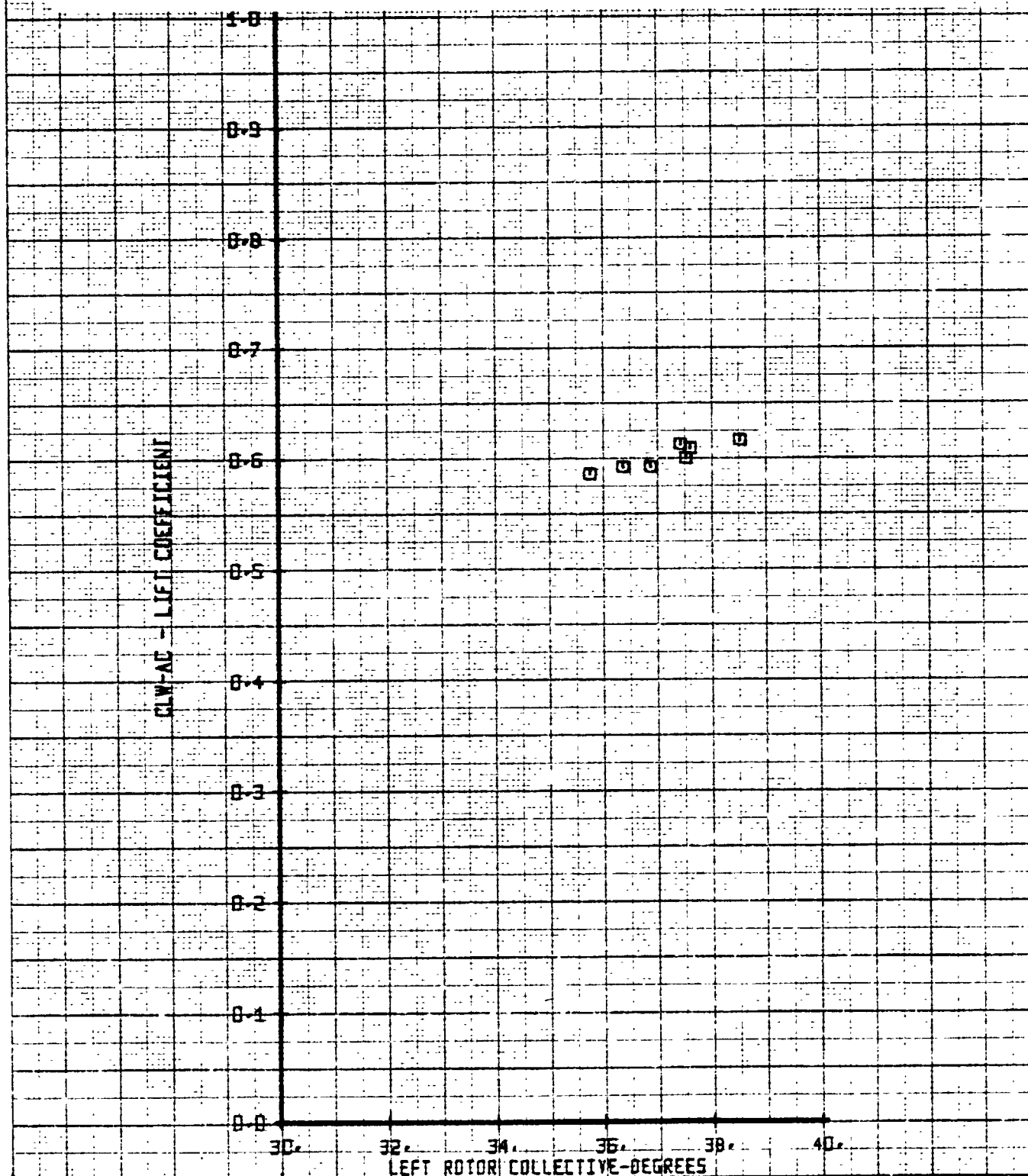


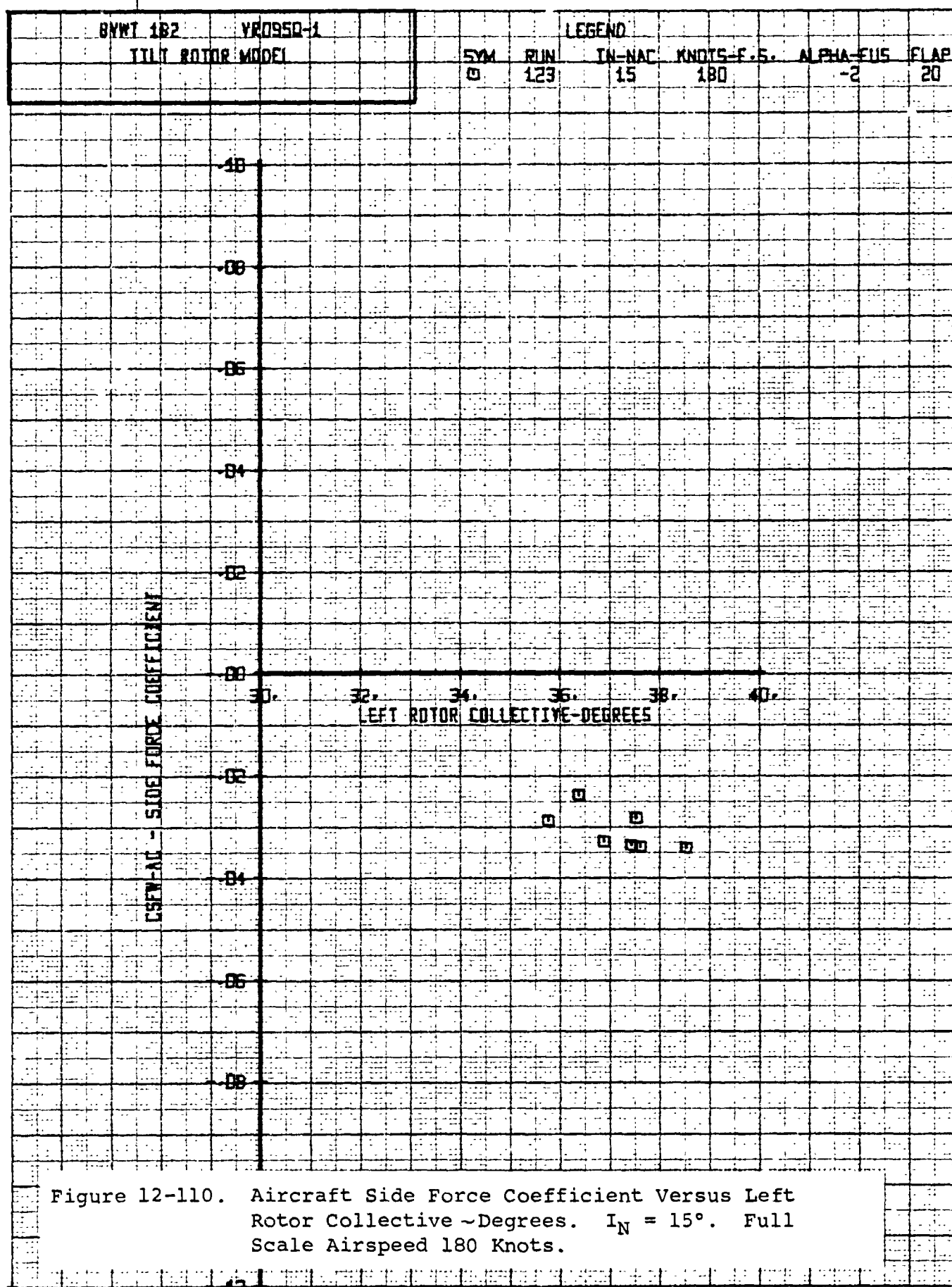
Figure 12-107. Right Rotor Pitching Moment Coefficient Versus Right Rotor Collective ~ Degrees. $I_N = 15^\circ$
Full Scale Airspeed 130 Knots.



BVMT 182	YR0950-1	LEGEND				
LEFT ROTOR MODE 1		SYM	RUN	IN-NAC	KNOTS-E.S.	ALPHA-EUS
		0	123	15	180	-2
						20

Figure 12-109. Aircraft Lift Coefficient Versus Left Rotor Collective Degrees. $\sim I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





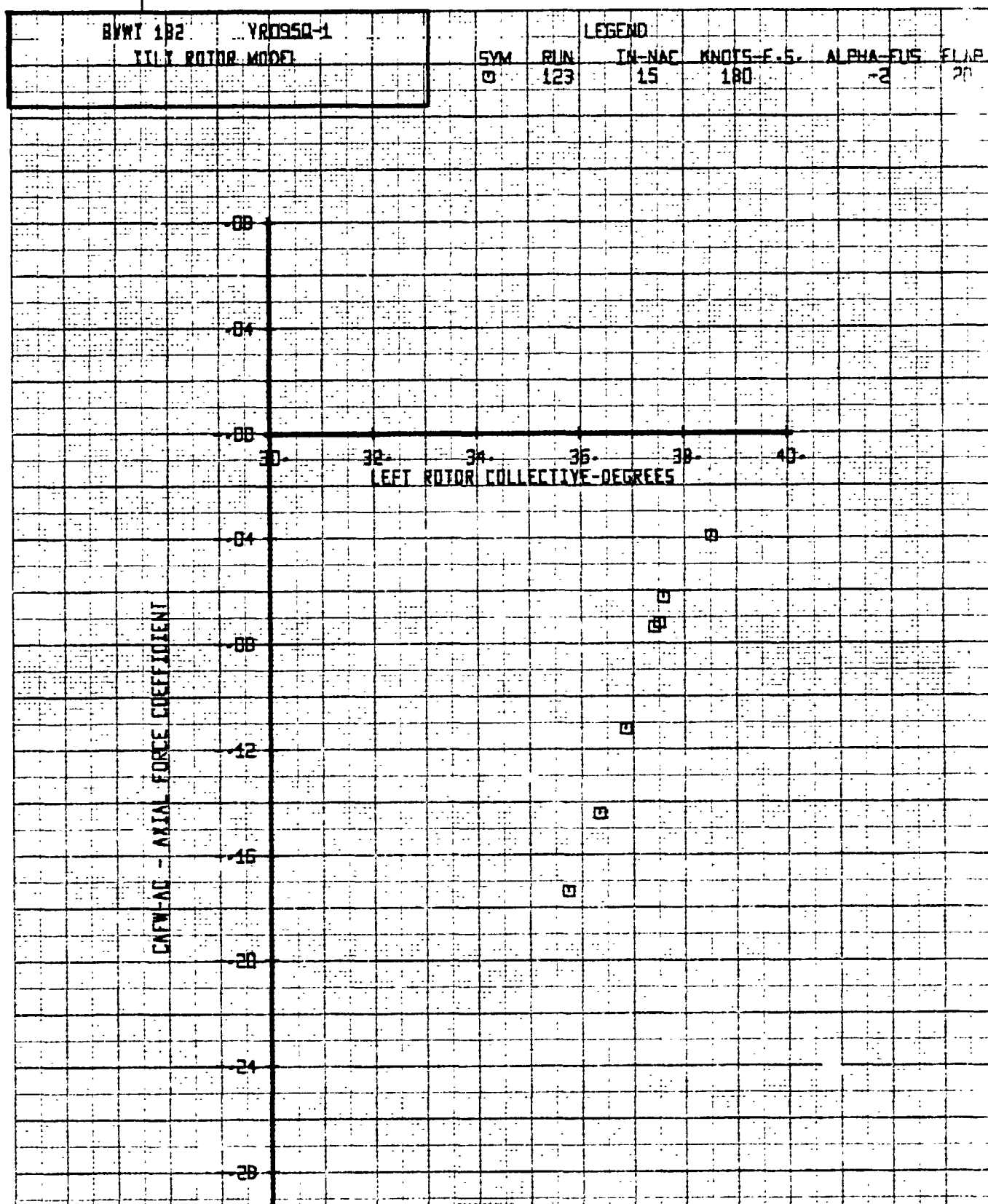


Figure 12-111. Aircraft Axial Force Coefficient Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BVWT 182 VR0950-1

TILT ROTOR MODEL

LEGEND

SYM	RUN	IN-NAC	KNOTS-E.S.	ALPHA-EUS	FLAP
0	123	15	180	-2	20

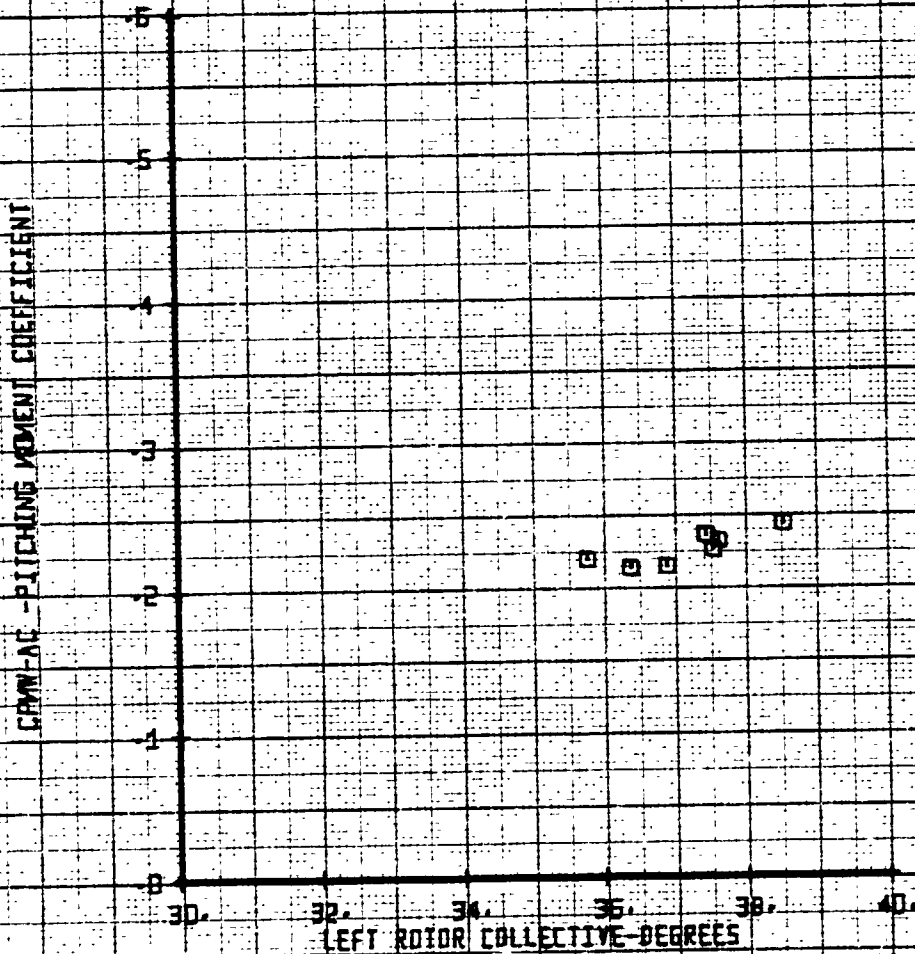


Figure 12-112. Aircraft Pitching Moment Coefficient Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

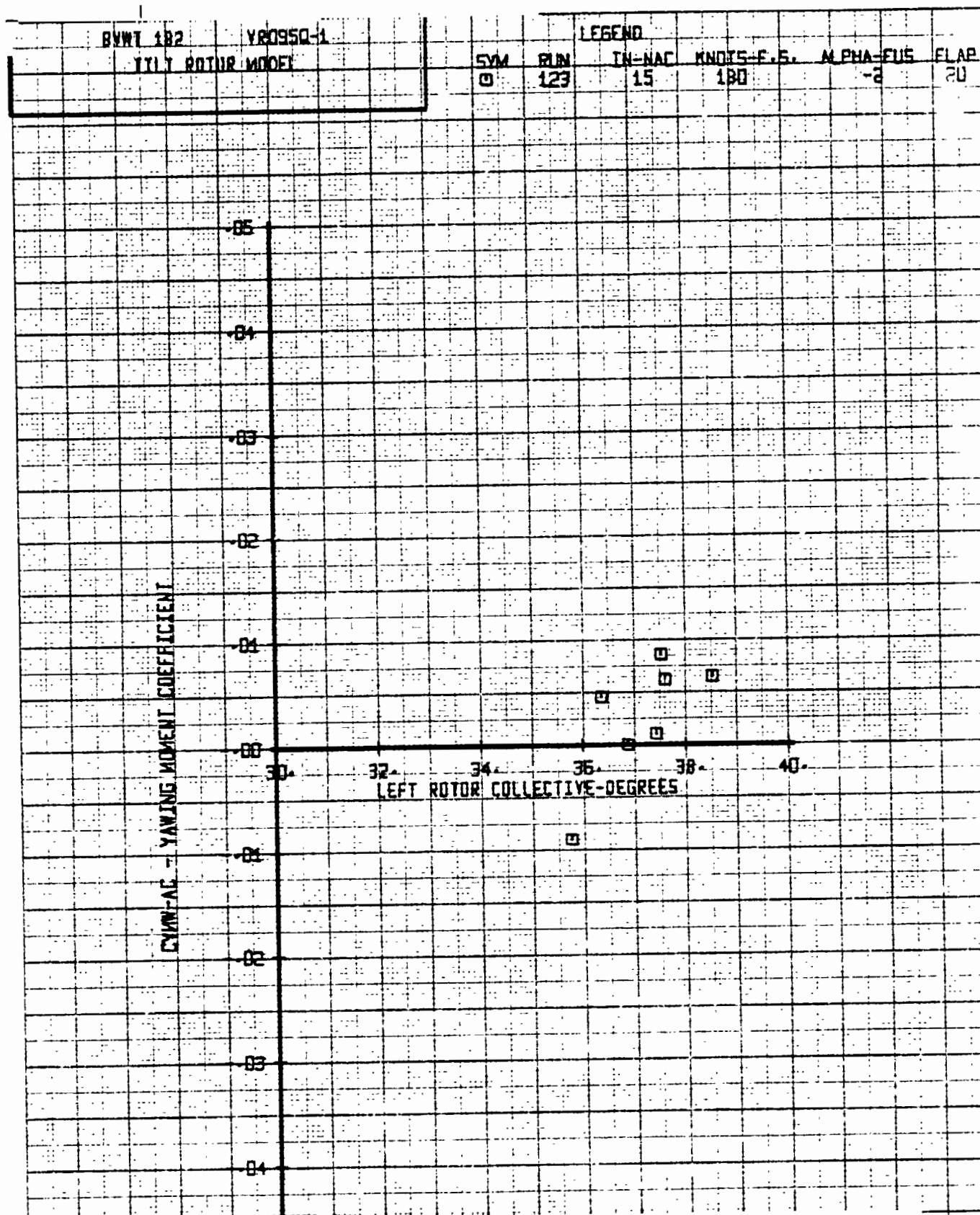


Figure 12-113. Aircraft Yawing Moment Coefficient Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

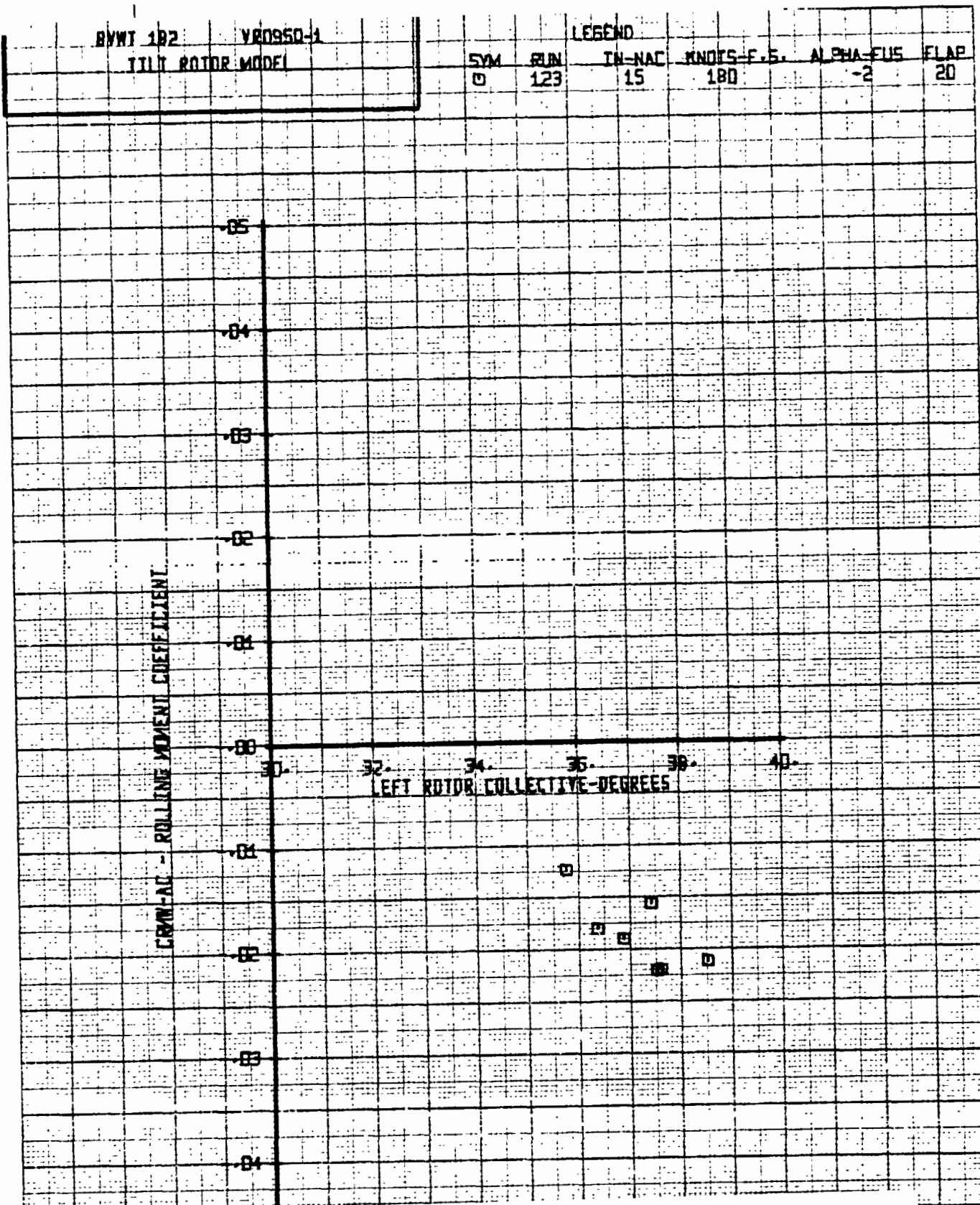
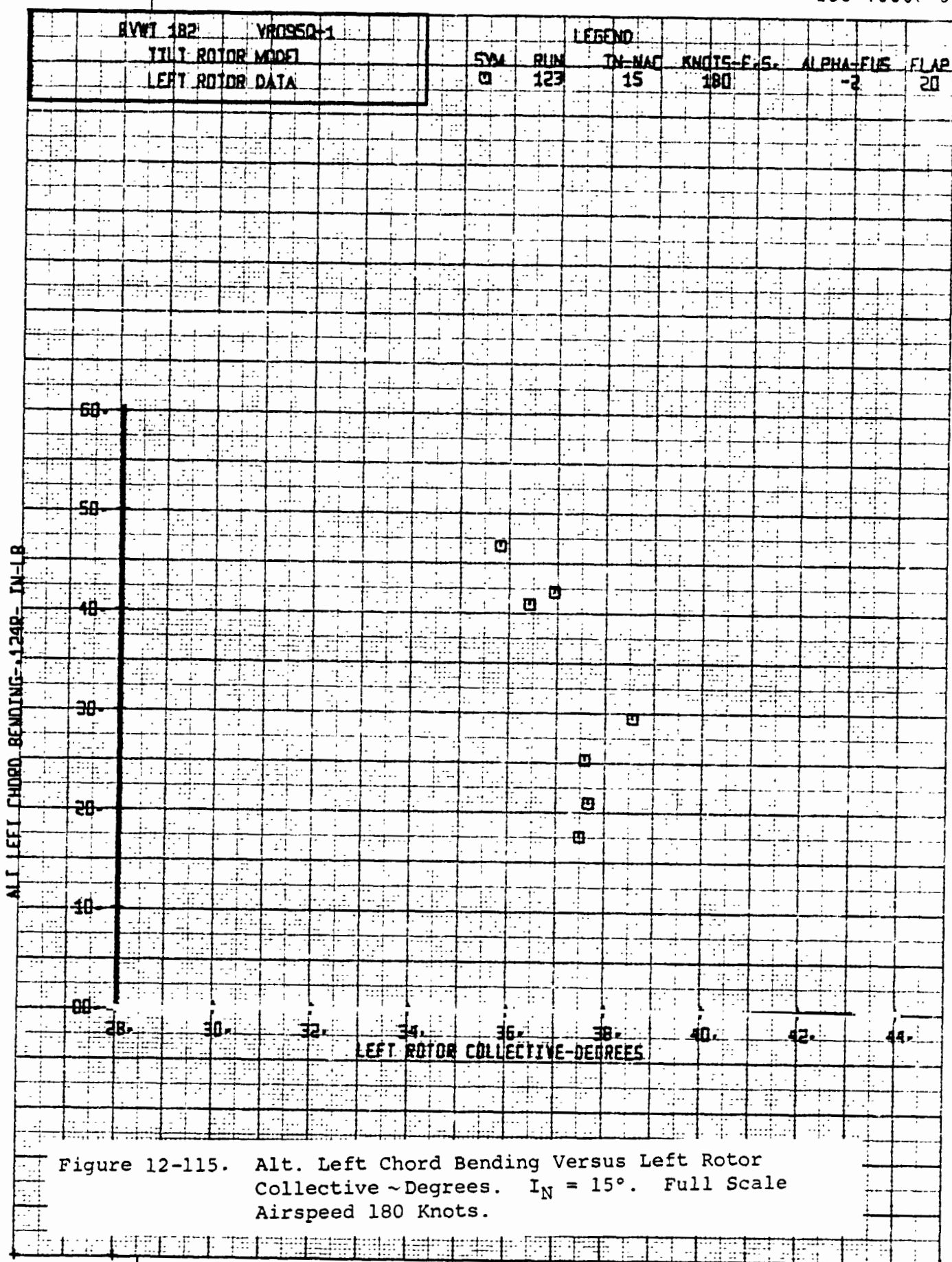
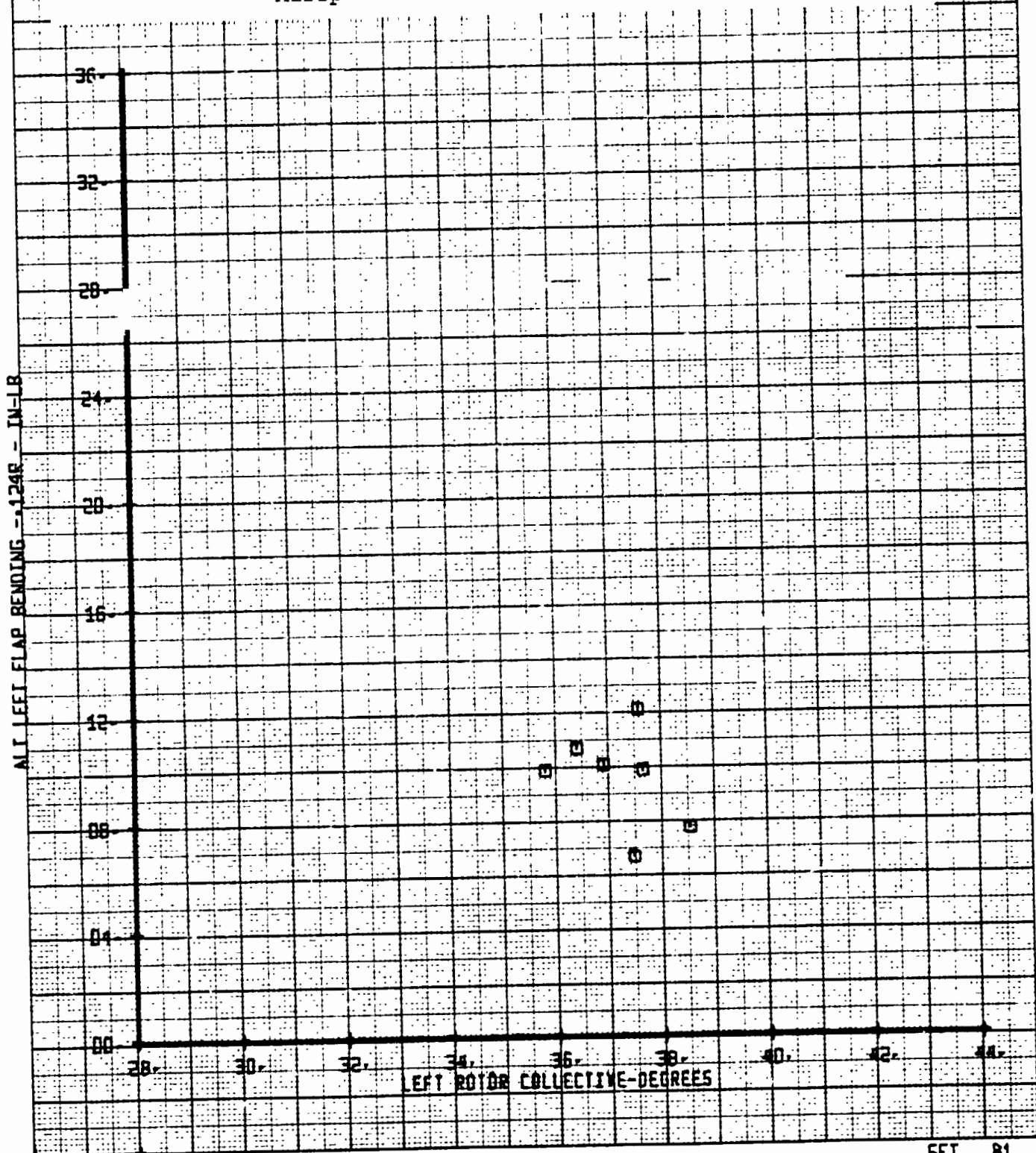


Figure 12-114. Aircraft Rolling Moment Coefficient Versus Left Rotor Collective ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



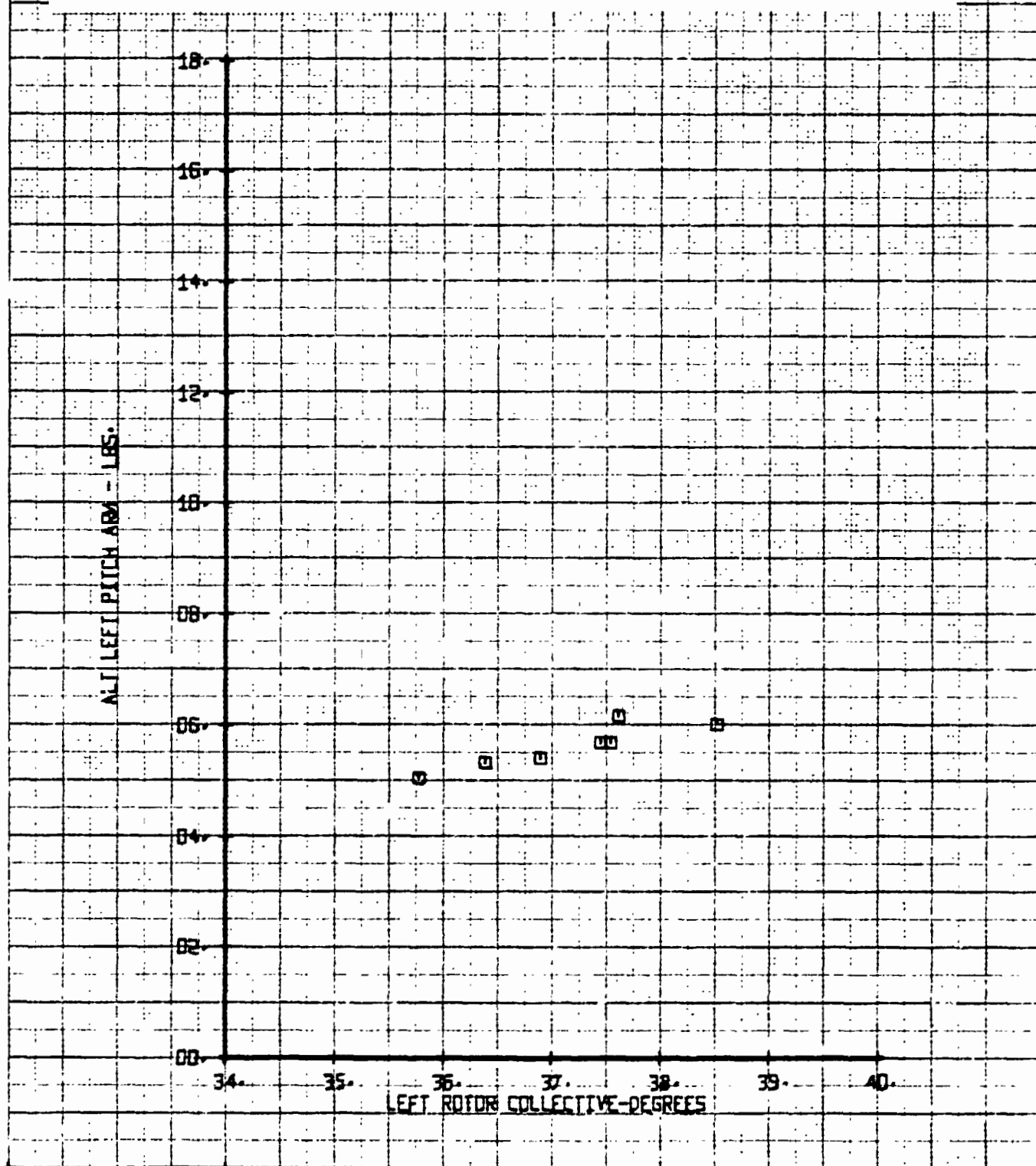
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-WAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	123	15	180	-2
						FLAP 20

Figure 12-116. Alt. Left Flap Bending Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BWWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	123	15	180	-2
						FI AP

Figure 12-117. Alt. Left Pitch Link Load Versus Left Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



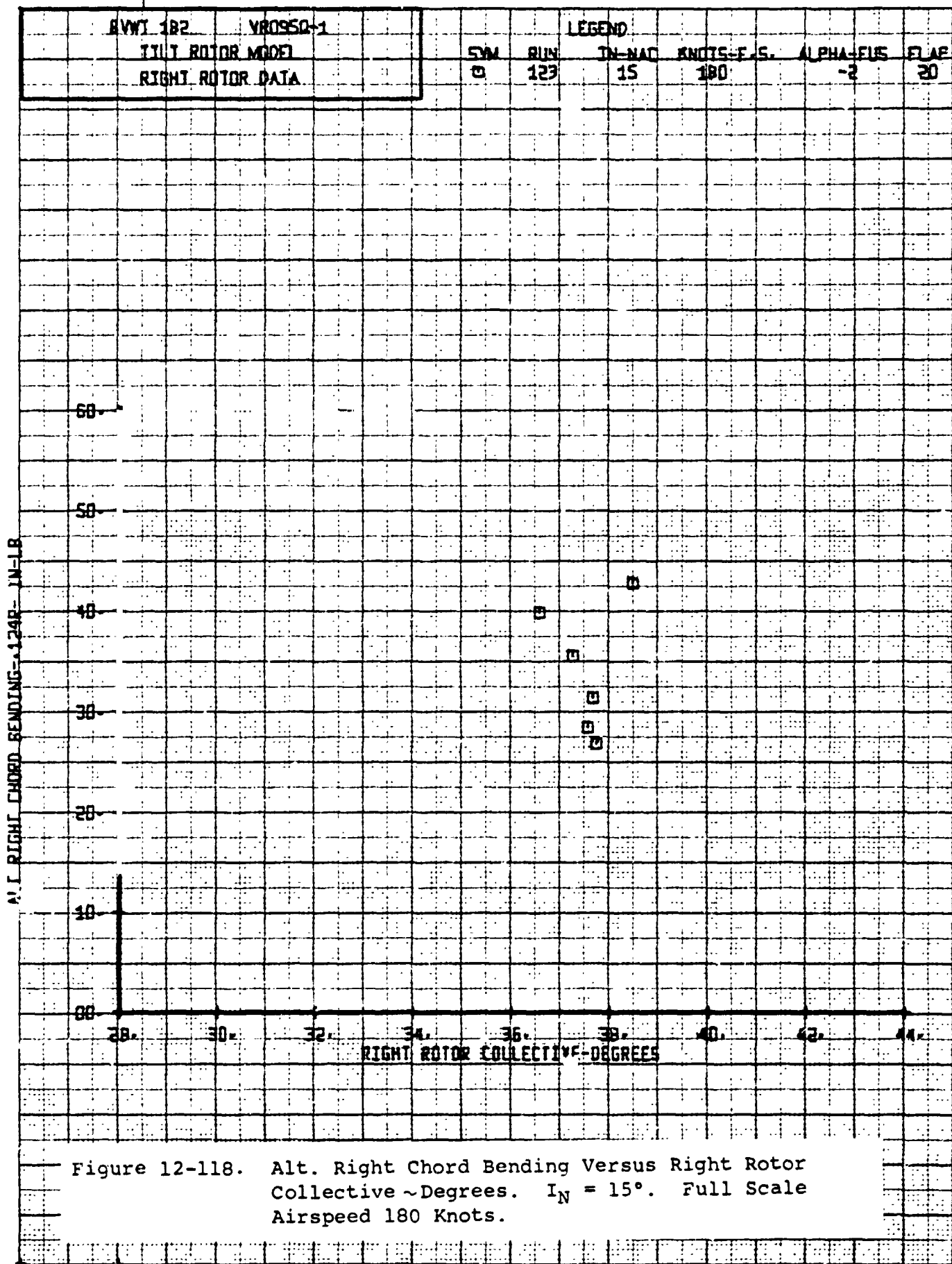
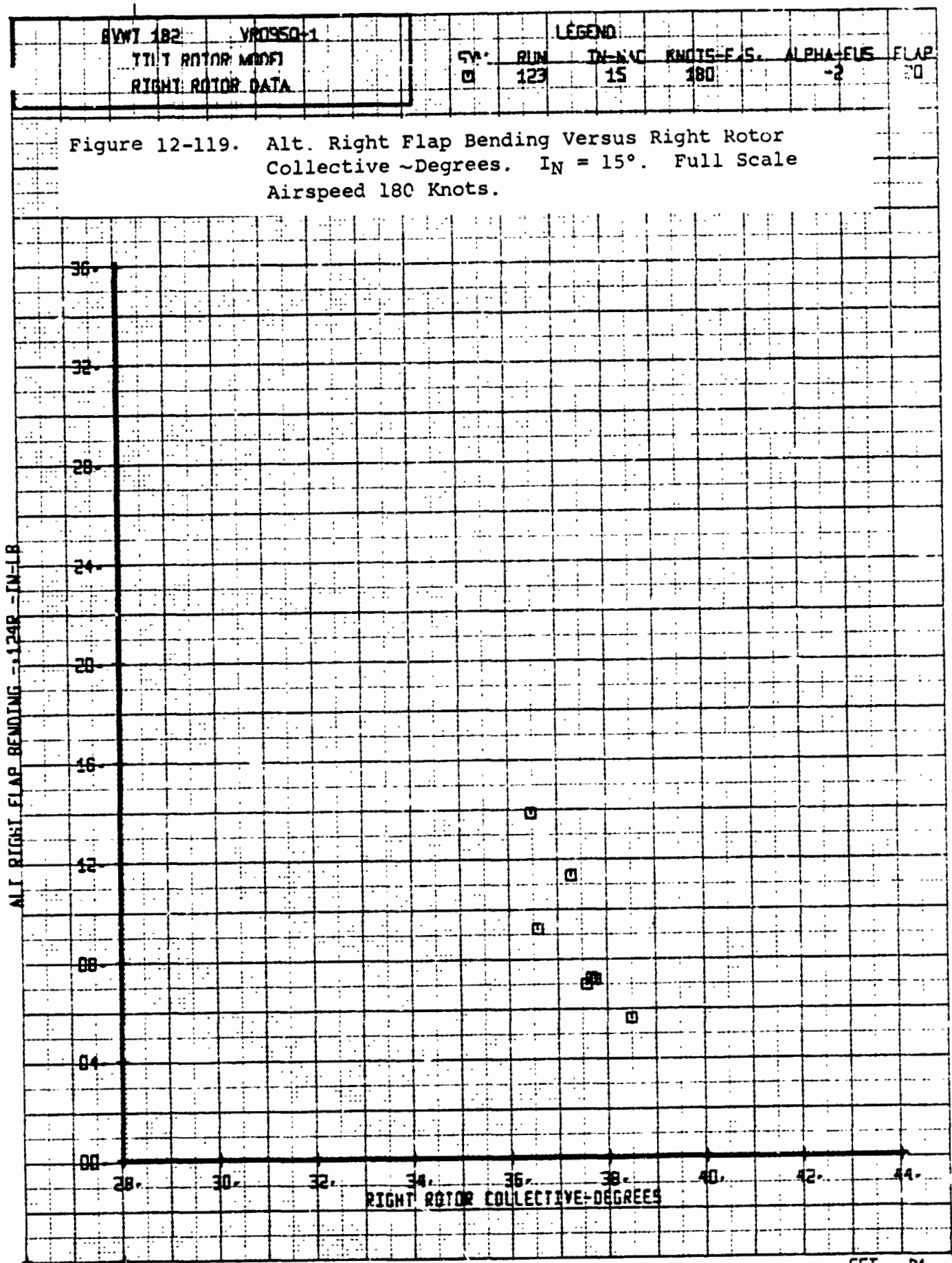
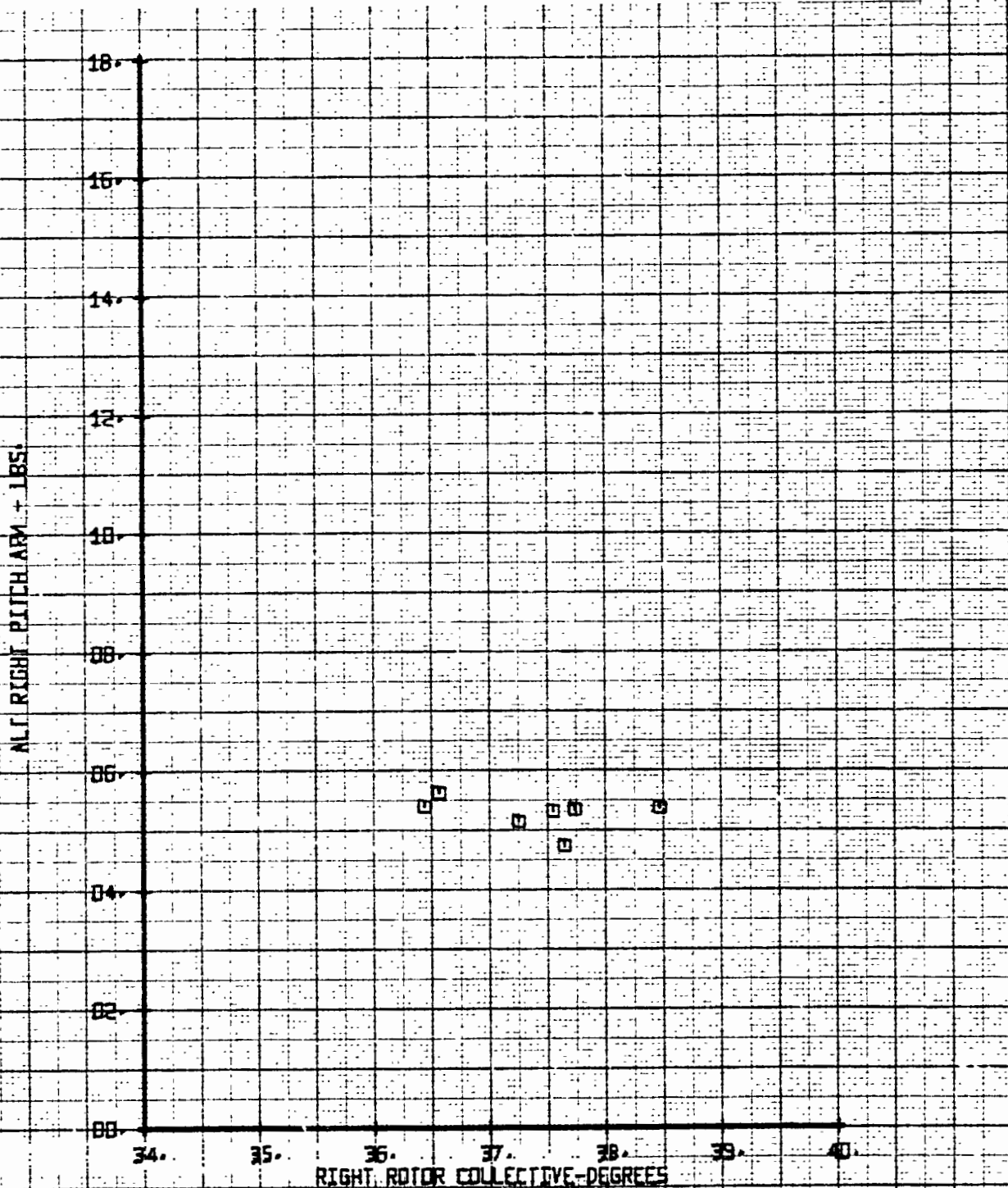


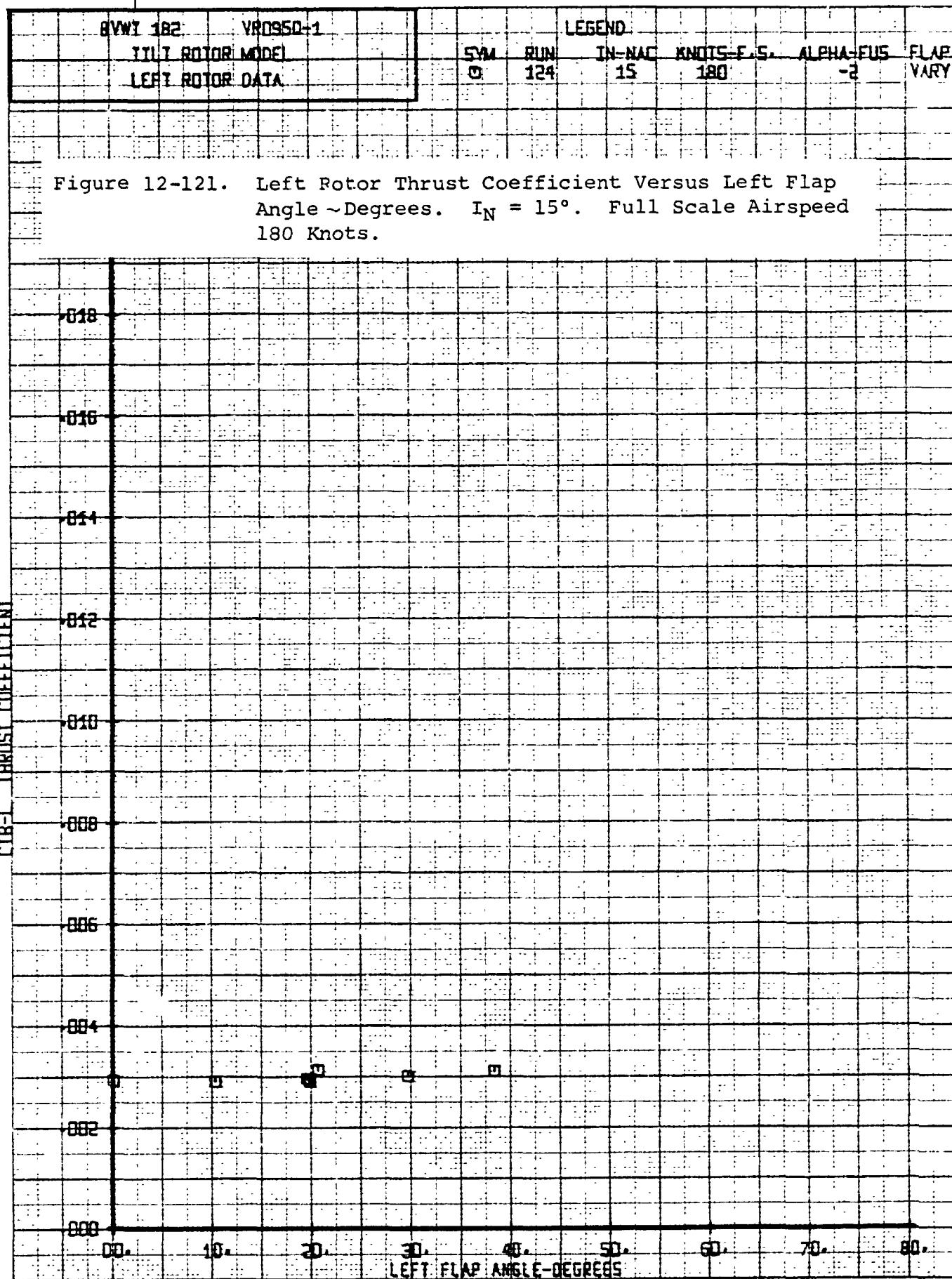
Figure 12-118. Alt. Right Chord Bending Versus Right Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

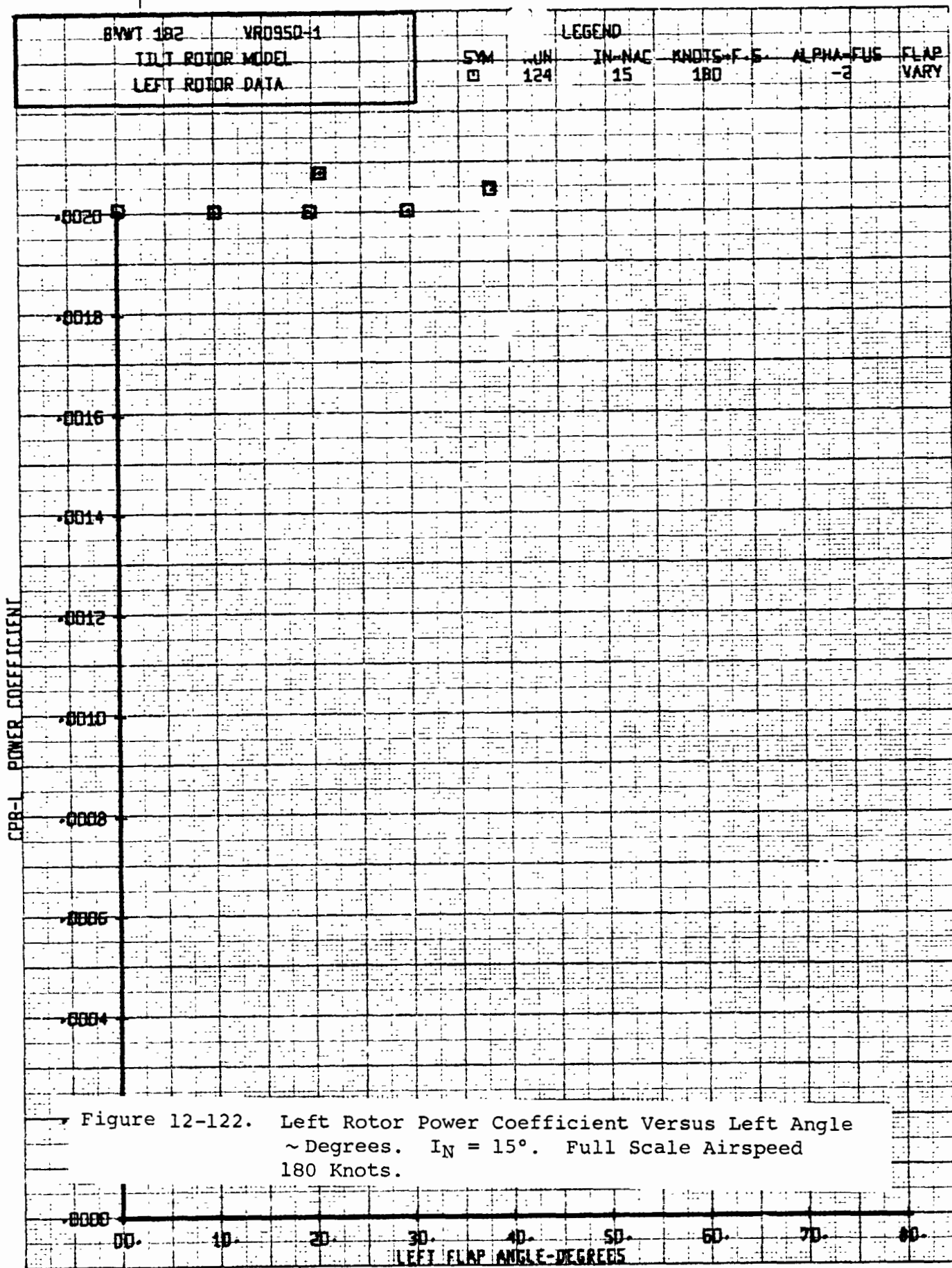


BYWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	123	15	180	-2
						FLAP 20

Figure 12-120. Alt. Right Pitch Link Load Versus Right Rotor Collective ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

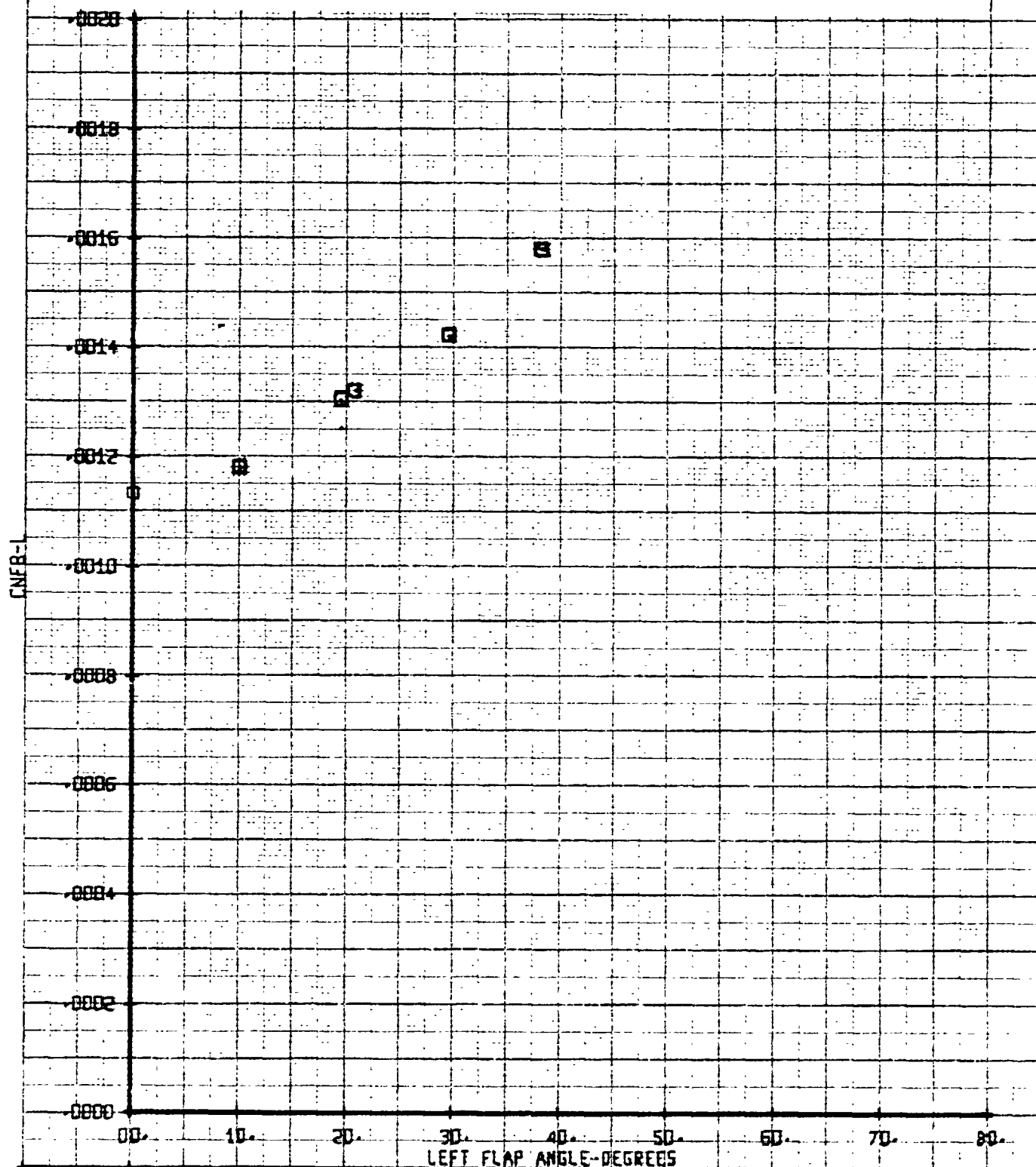


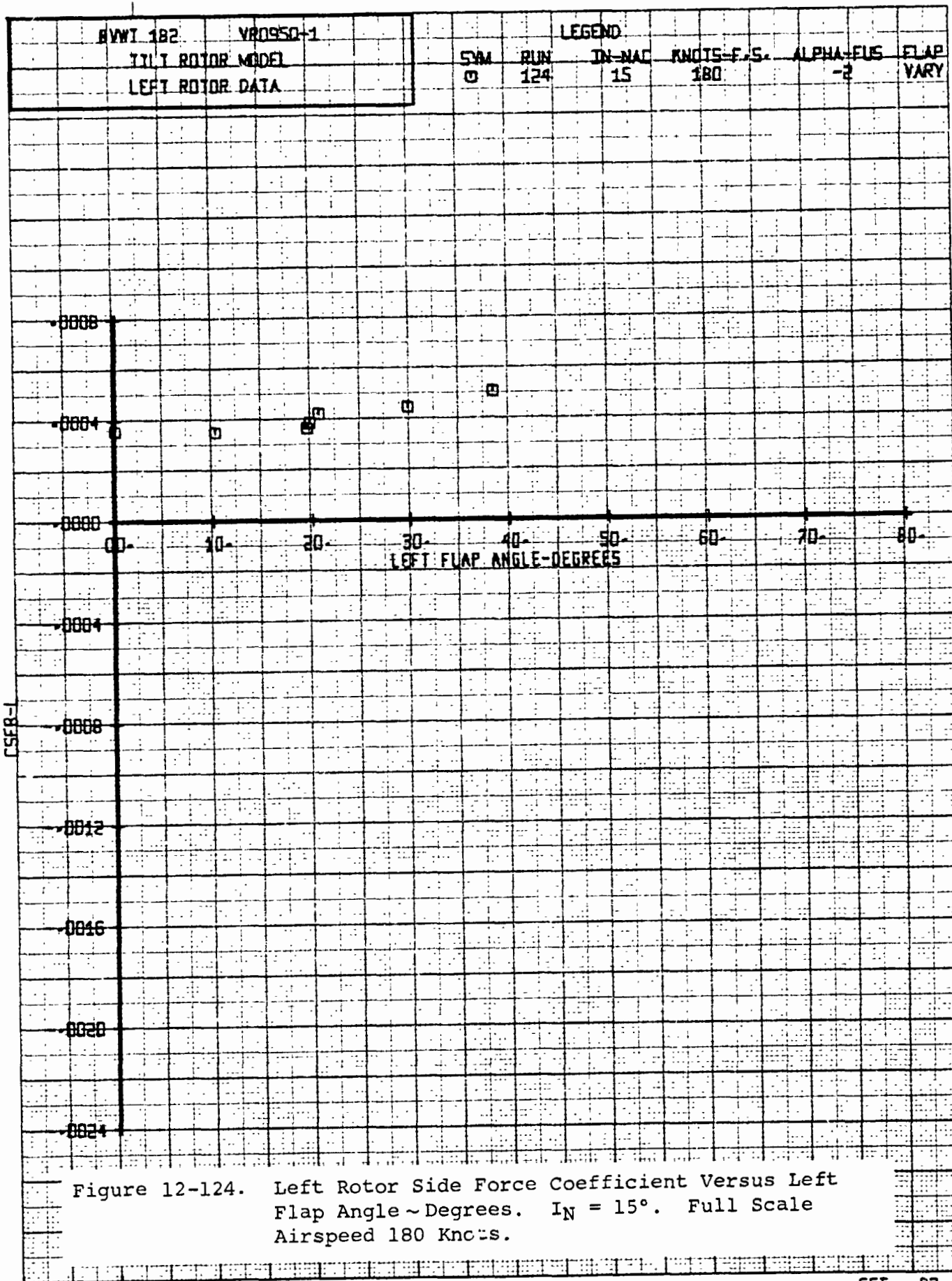


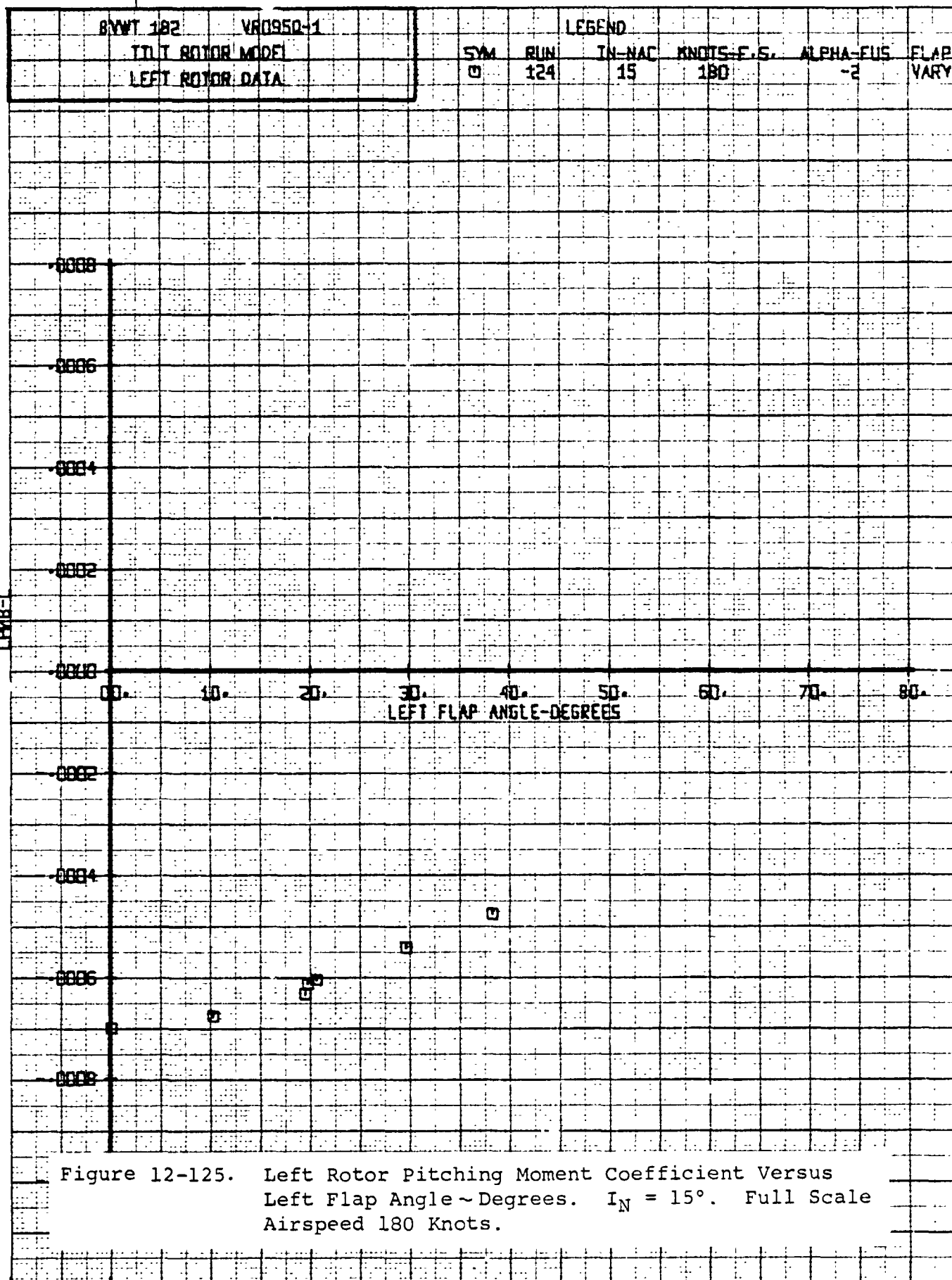


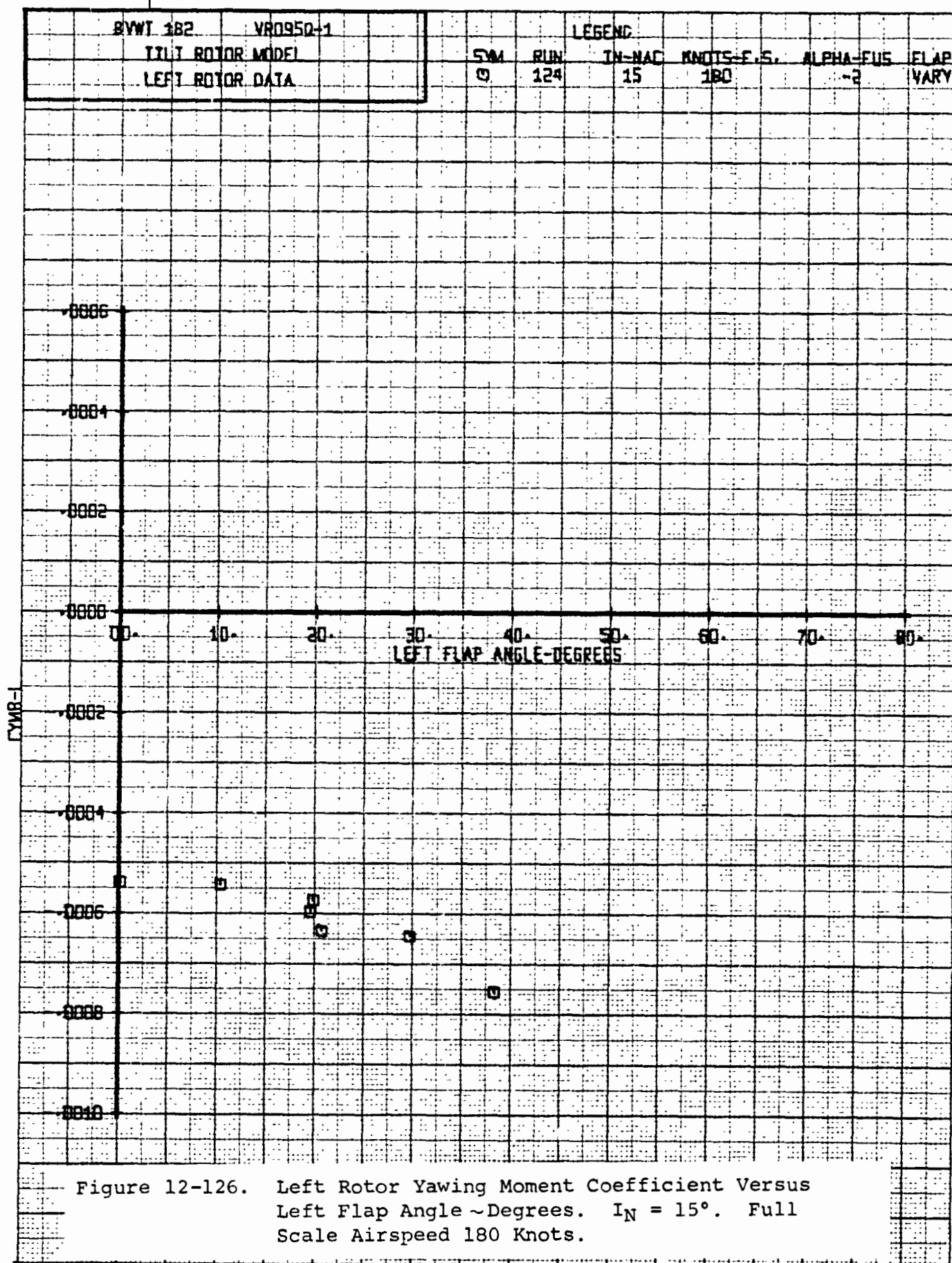
RWY 182		VRD950-1		LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F	5	ALPHA-FUS	FLAP
LEFT ROTOR DATA		0	124	15	180		-2	VARY

Figure 12-123. Left Rotor Normal Force Coefficient Versus Left Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



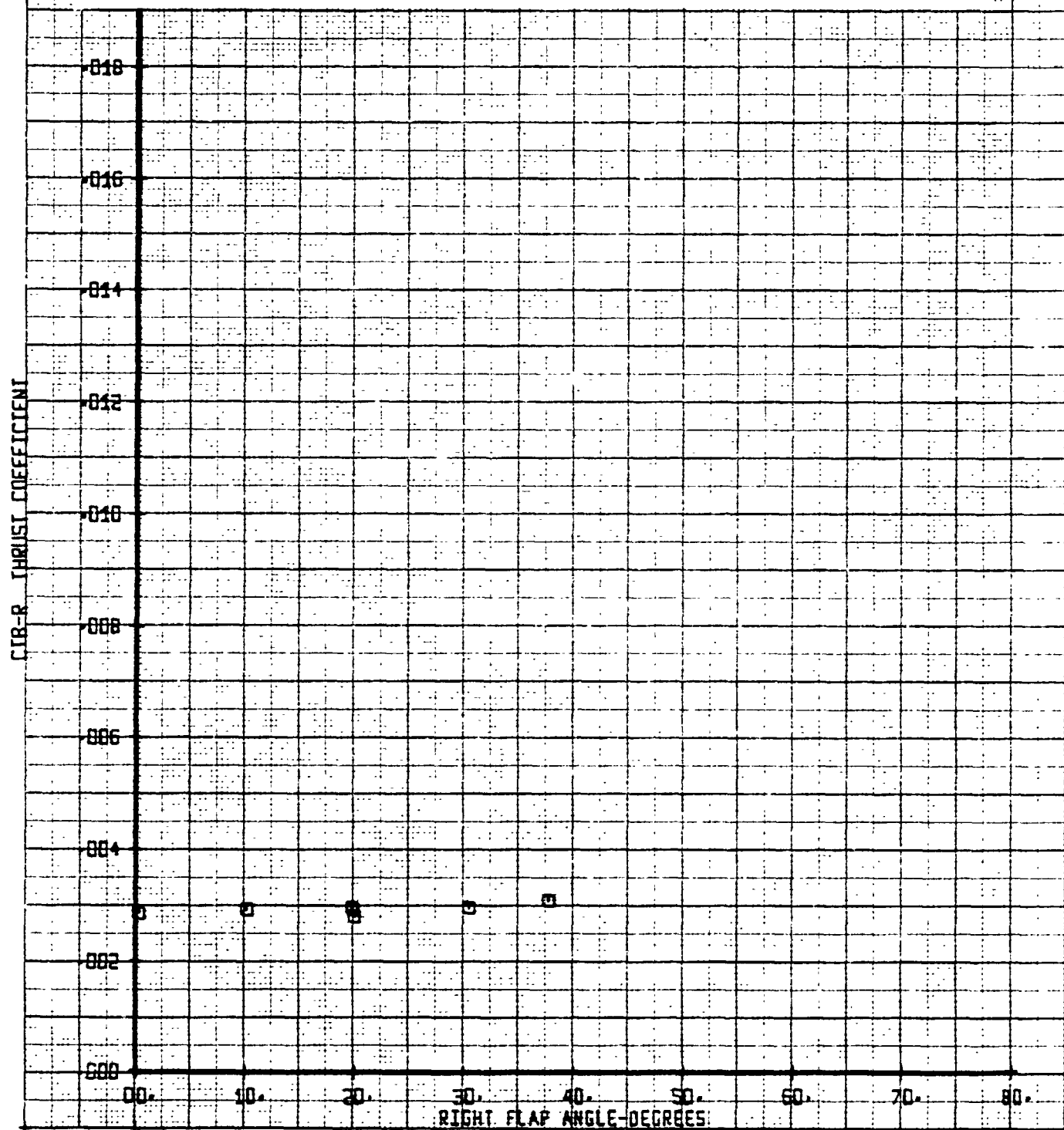






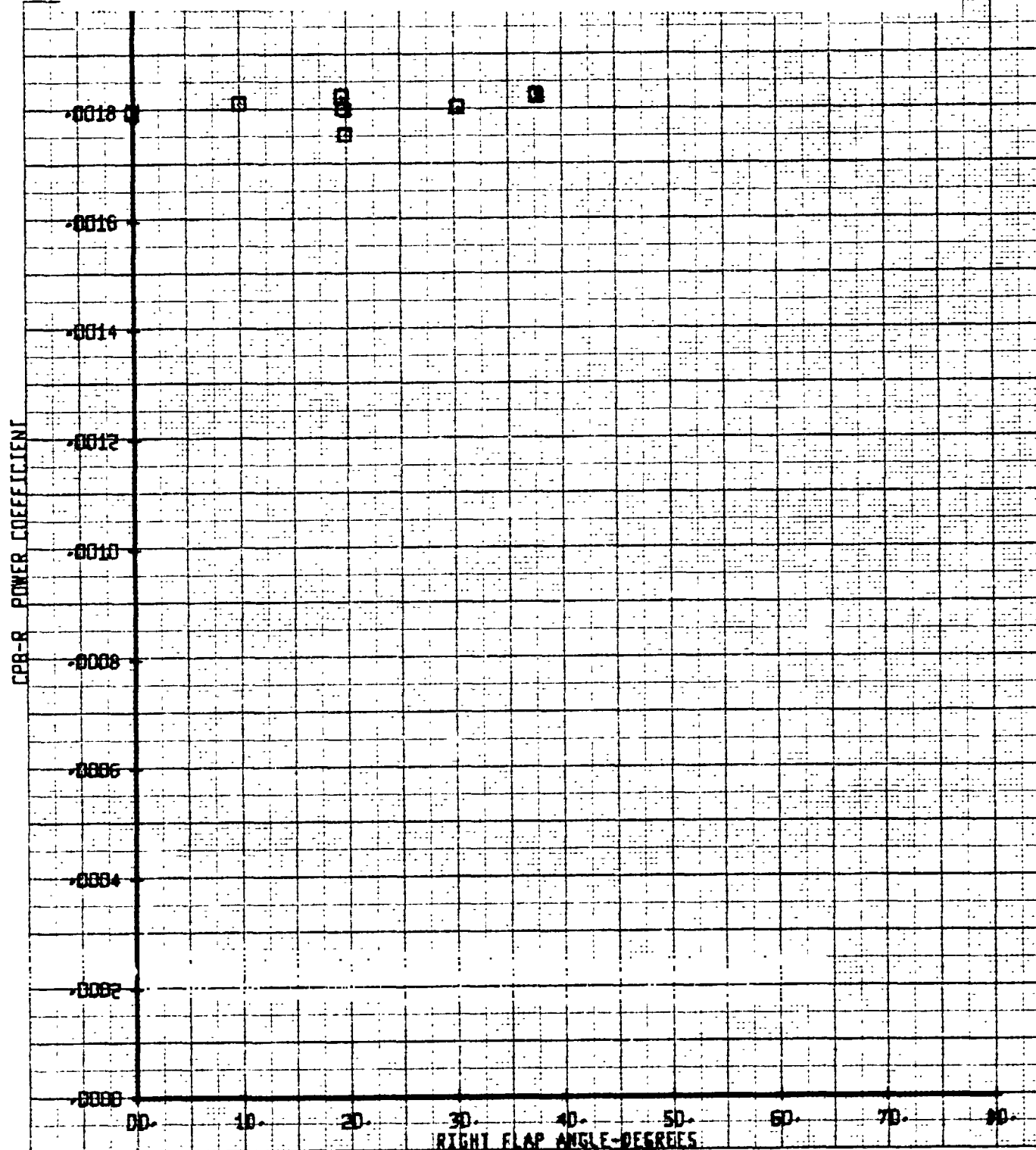
BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
RIGHT ROTOR DATA		□	124	15	180	-2
		FLAP VARY				

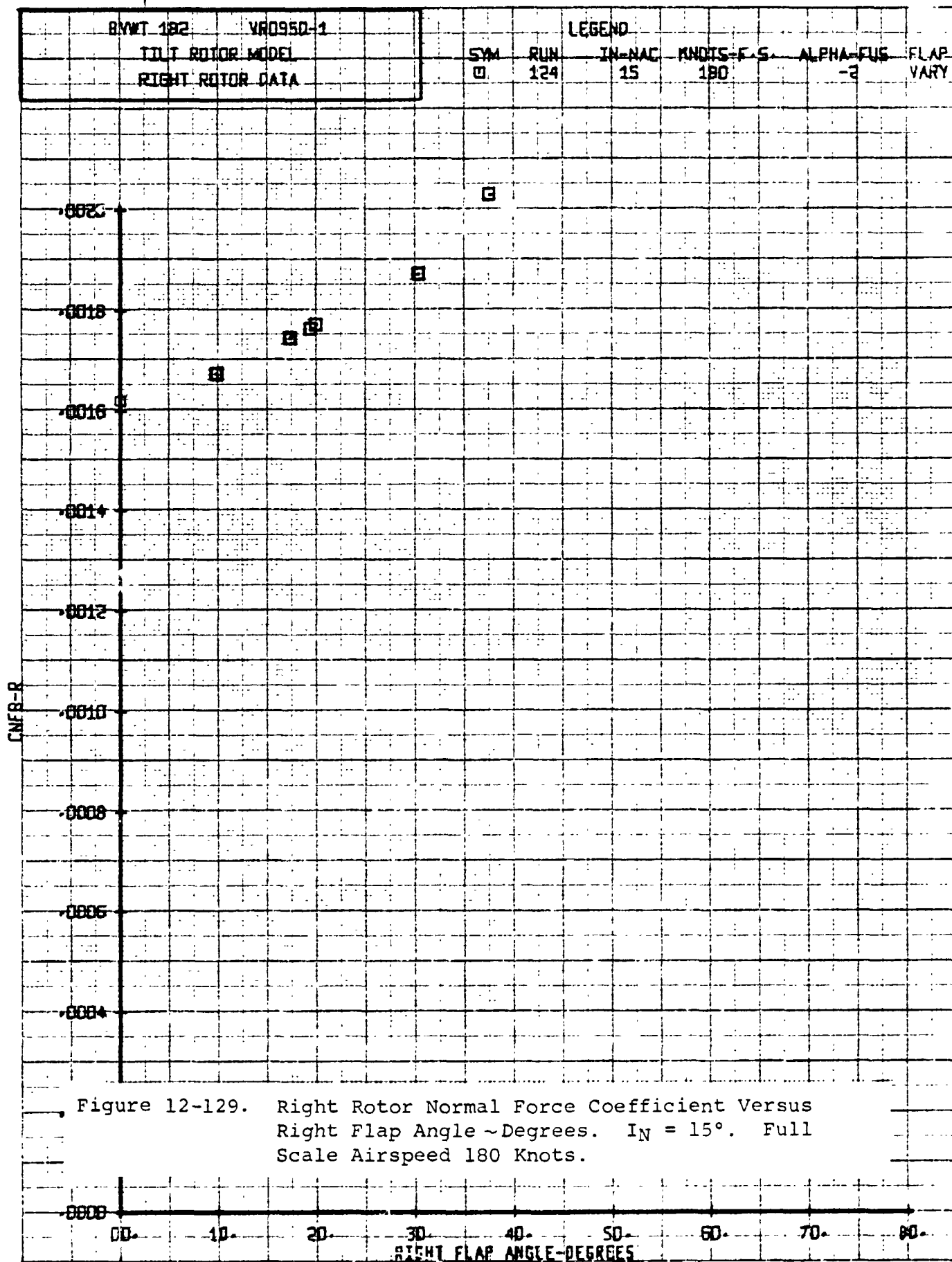
Figure 12-127. Right Rotor Thrust Coefficient Versus Right Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

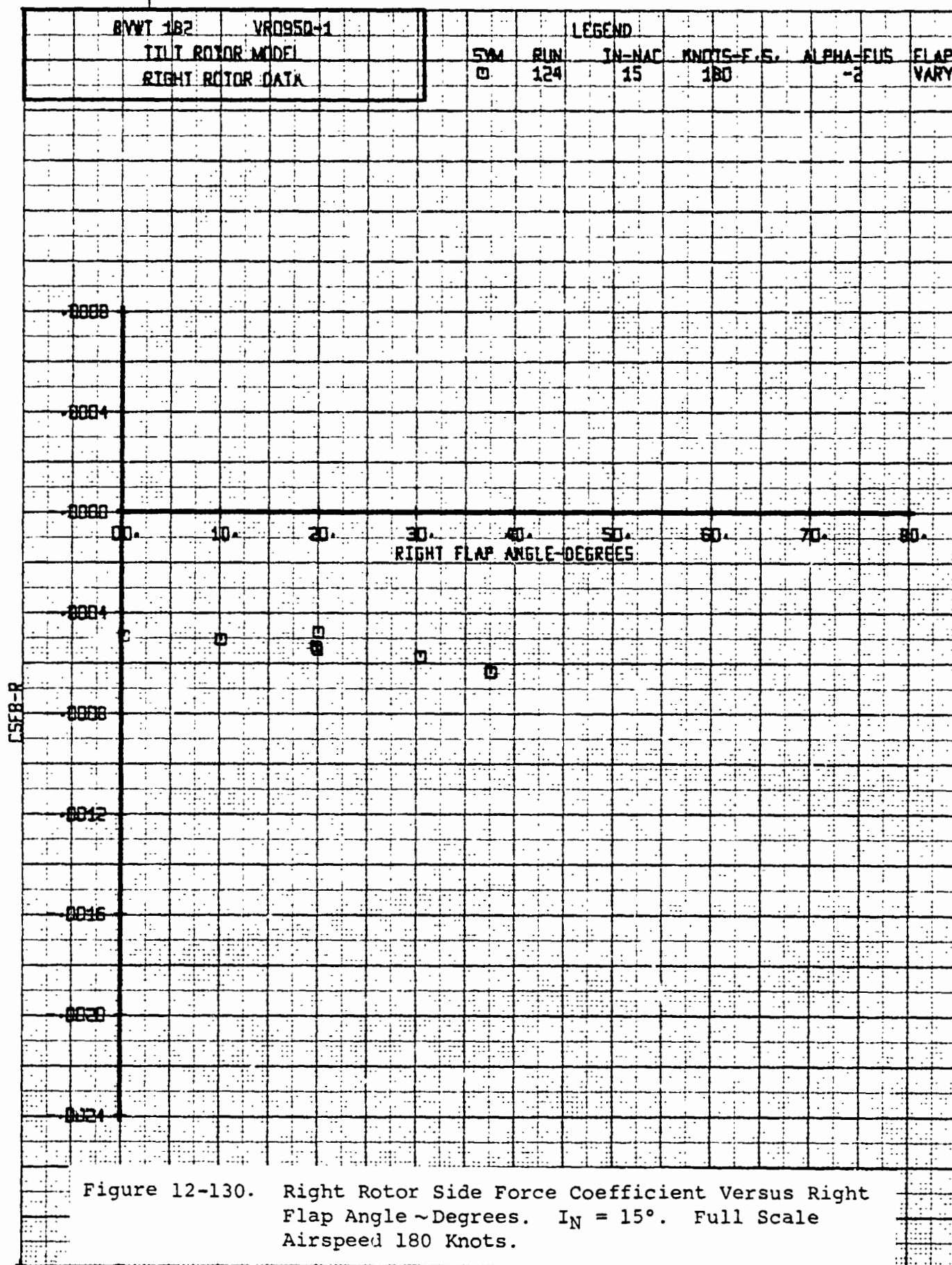


BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F-5	ALPHA-FUS
RIGHT ROTOR DATA		□	124	15	180	-2
						FLAP VARY

Figure 12-128. Right Rotor Power Coefficient Versus Right Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.







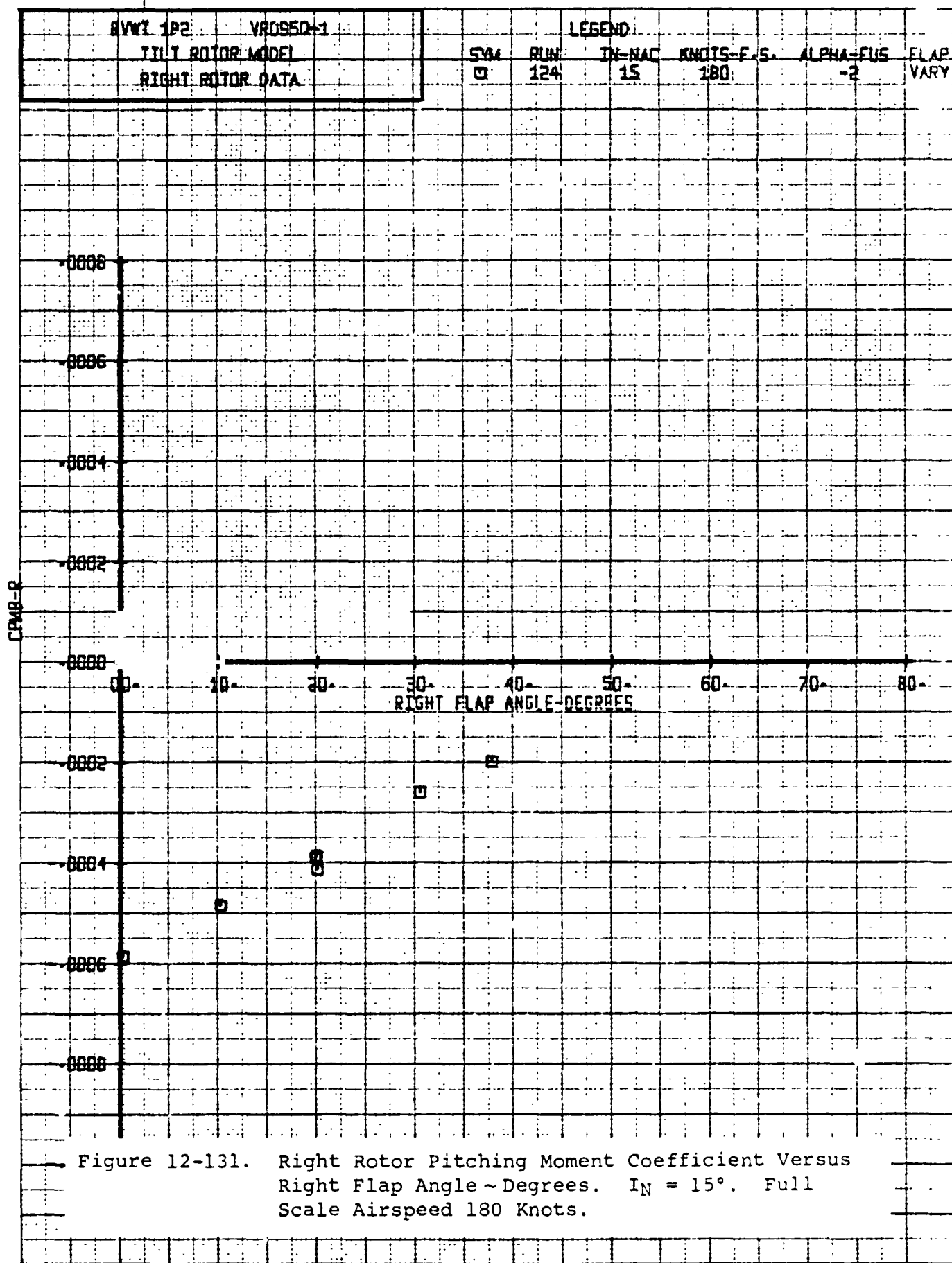


Figure 12-131. Right Rotor Pitching Moment Coefficient Versus Right Flap Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

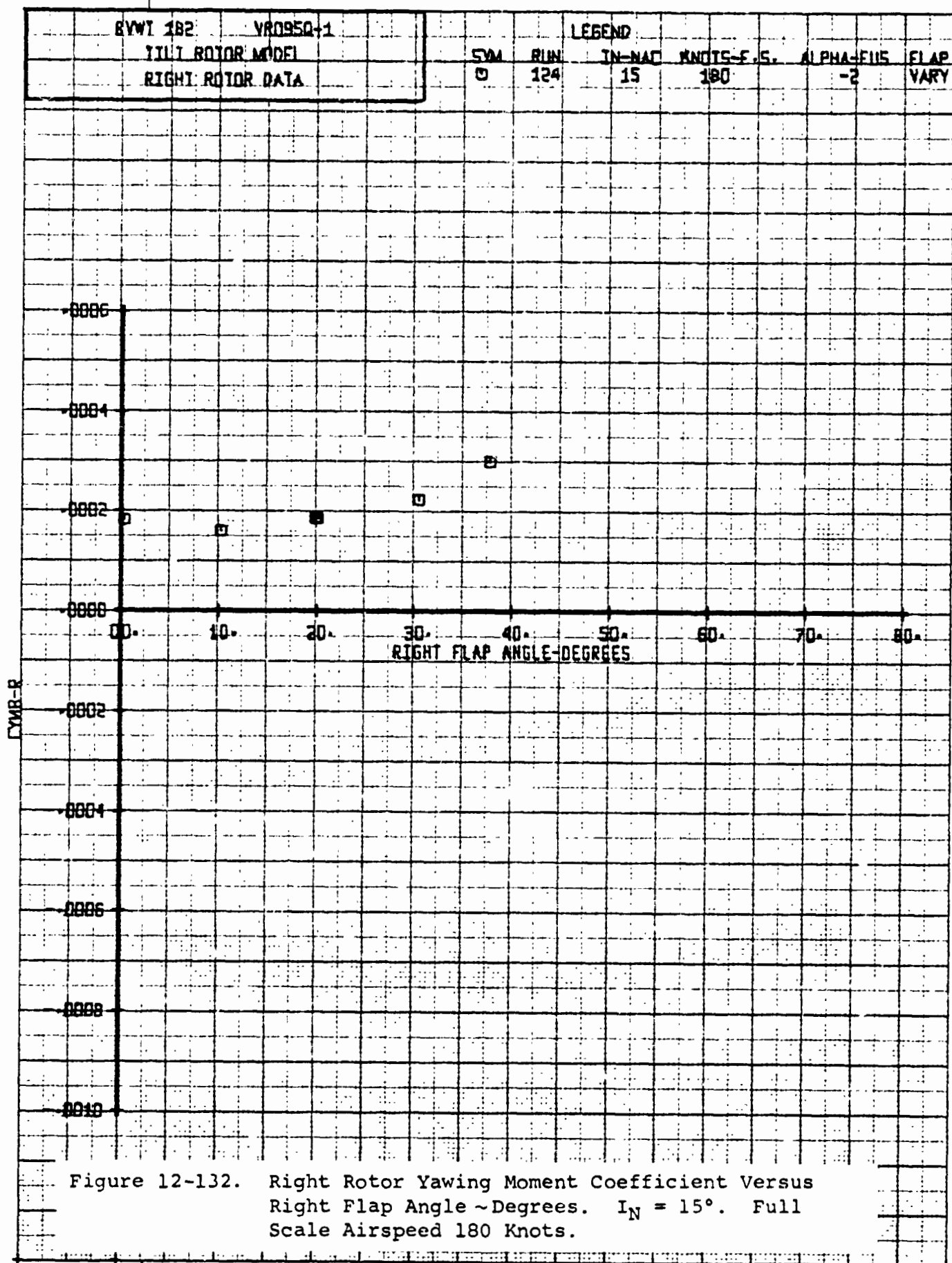
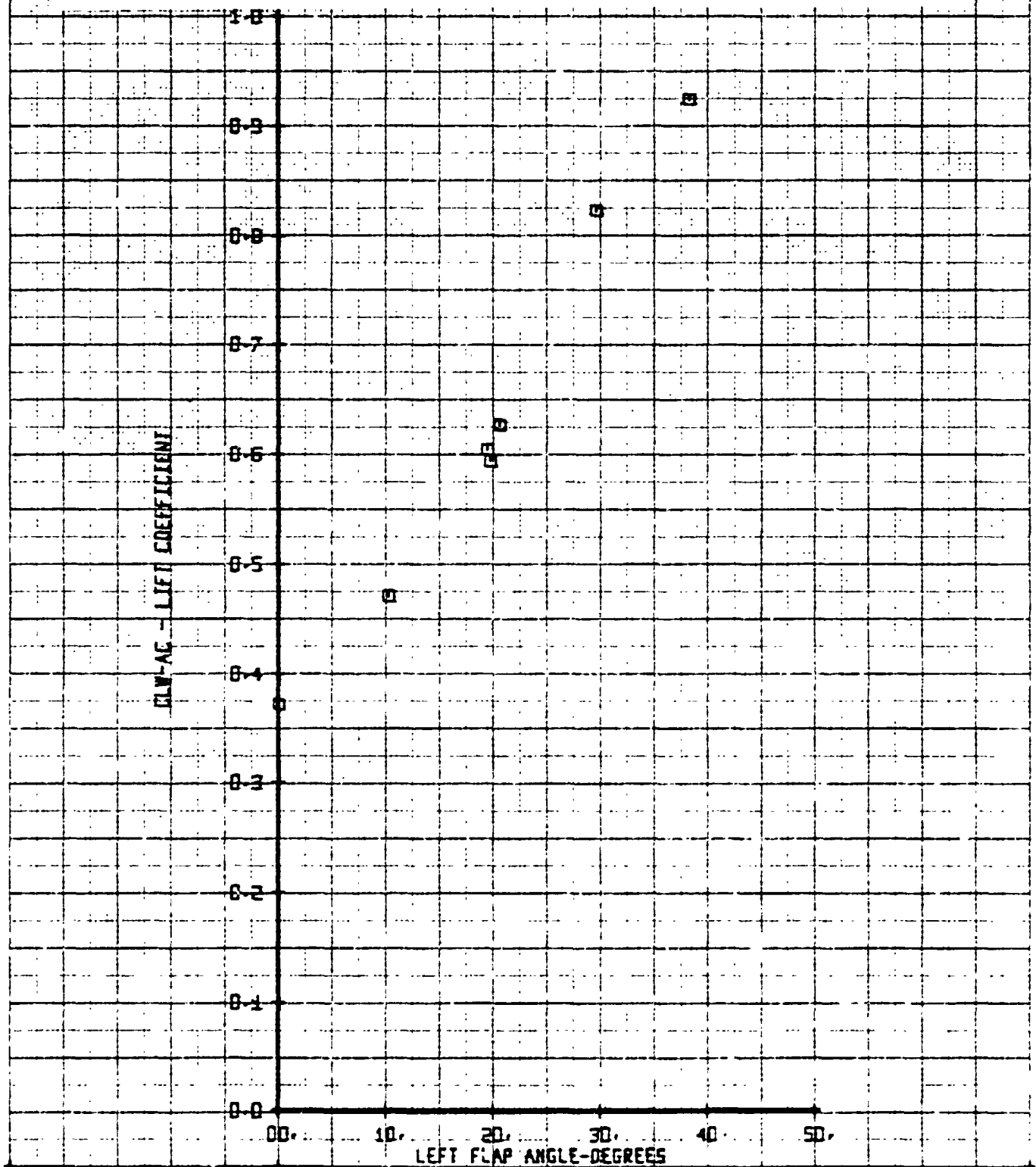


Figure 12-132. Right Rotor Yawing Moment Coefficient Versus Right Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BYWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS=F.S.	ALPHA-FUS
		□	124	15	180	-2
		FLAP VARY				

Figure 12-133. Aircraft Lift Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



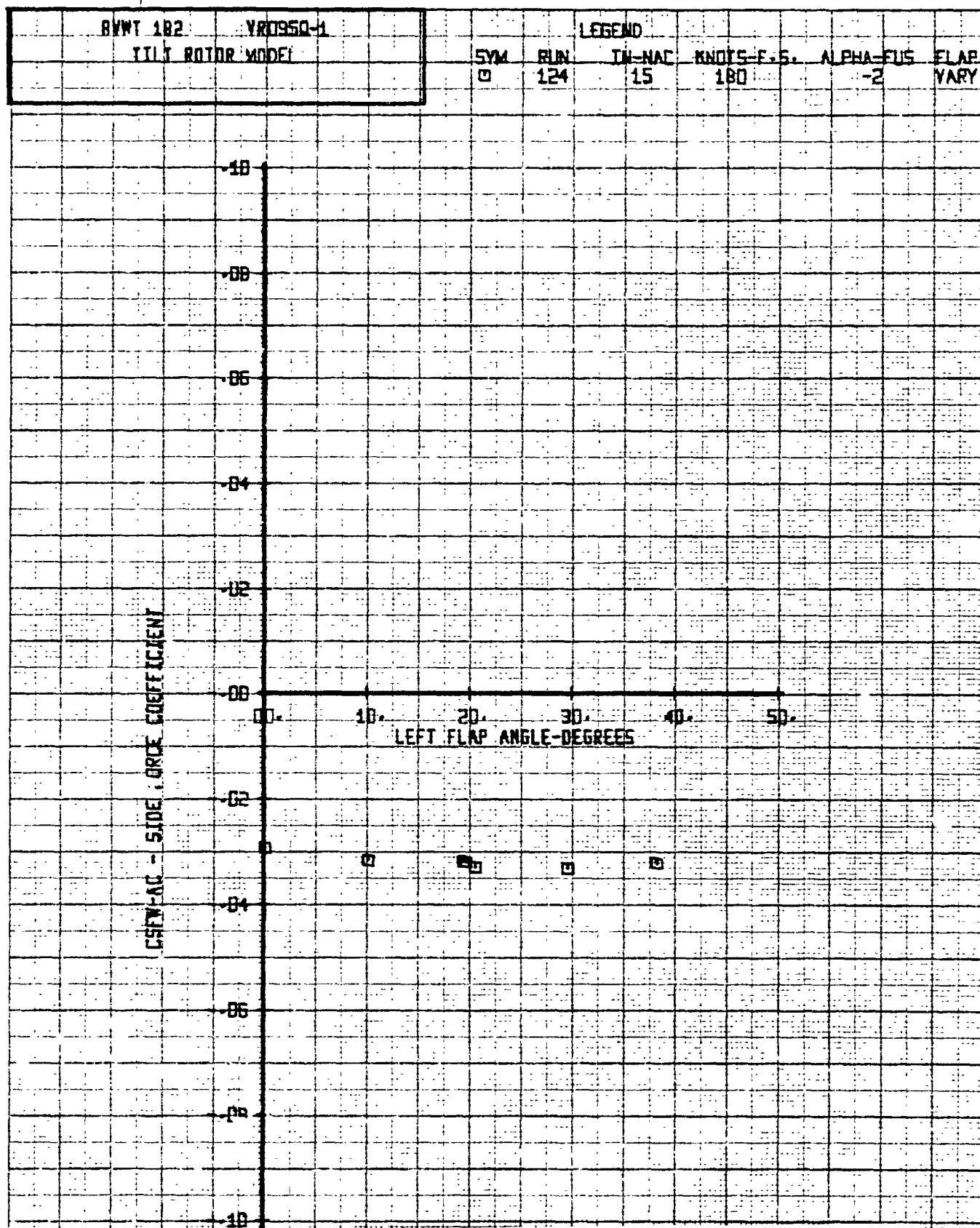


Figure 12-134. Aircraft Side Force Coefficient Versus Left Flap Angle ~degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

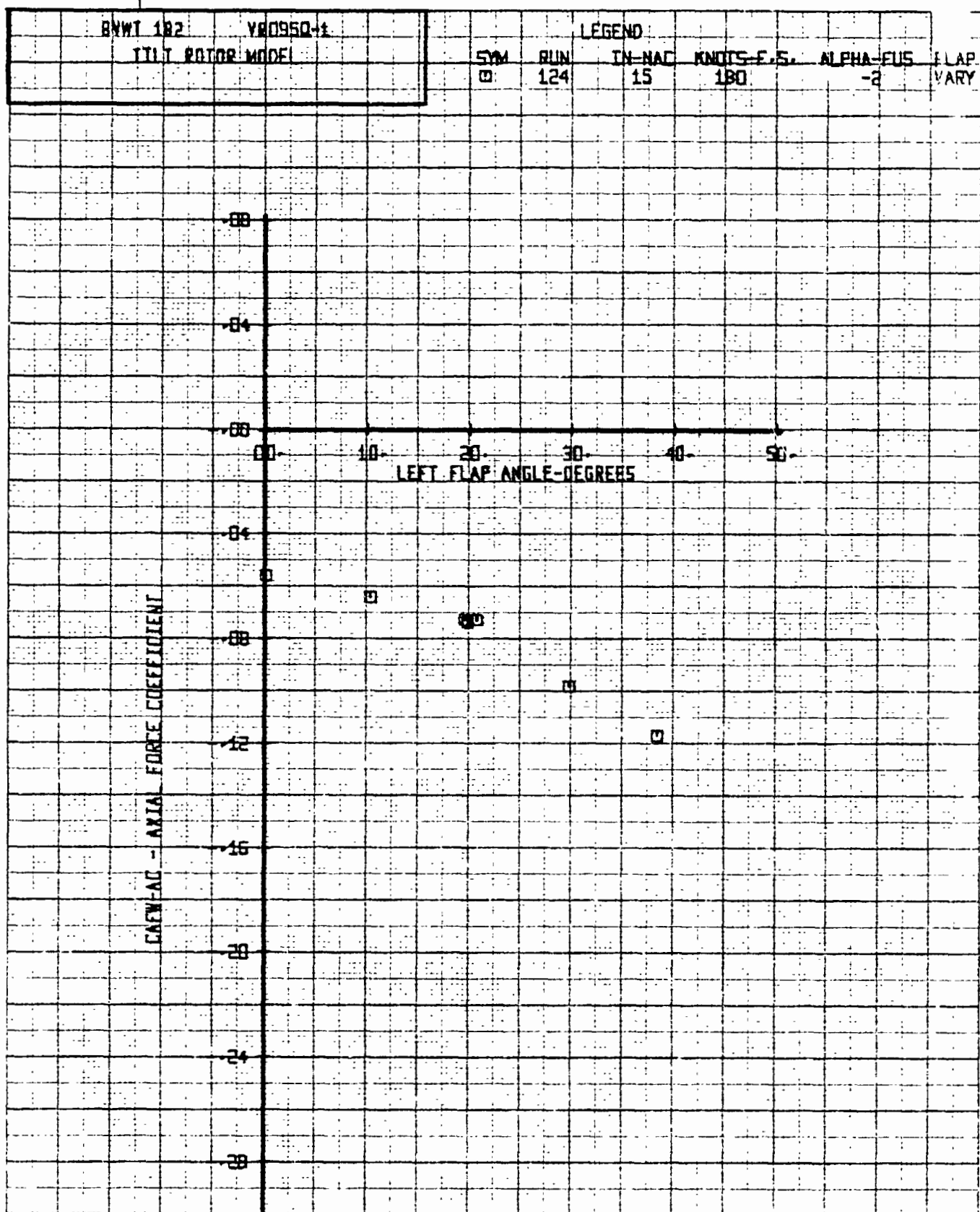


Figure 12-135. Aircraft Axial Force Coefficient Versus Left Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BVWT 182		VR0950-1	LEGEND			
TILT ROTOR MODEL			SYM	FLW	IN-NAC	KNOTS-F.S.
			□	124	15	180
						ALPHA-FUS
						-2
						FLAP
						VARY

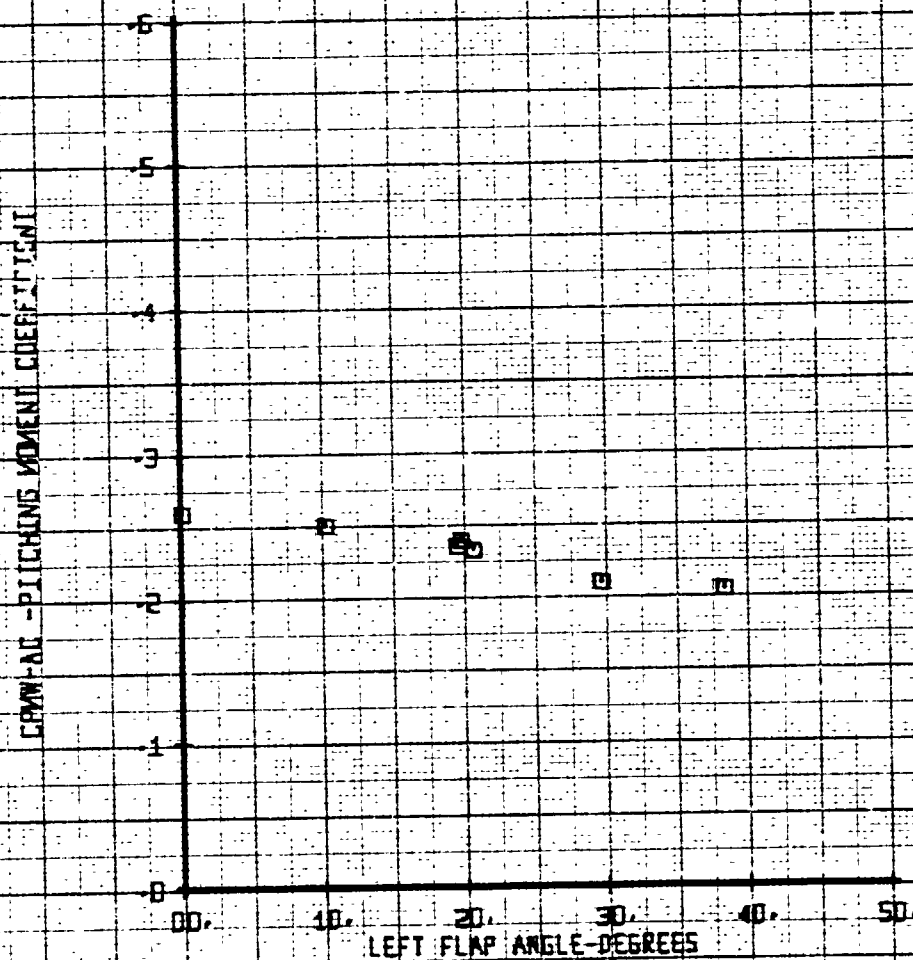


Figure 12-136. Aircraft Pitching Moment Coefficient Versus Left Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

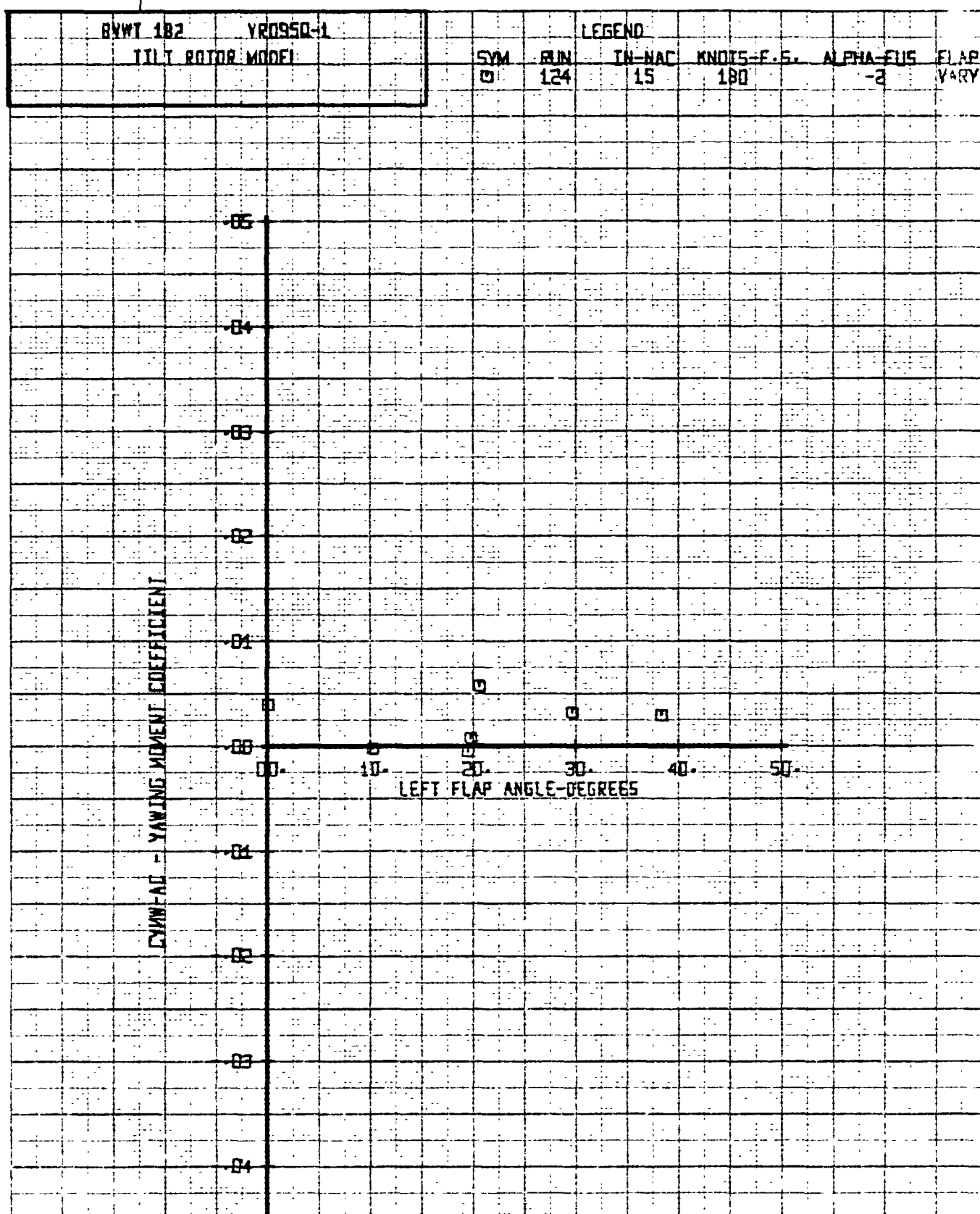
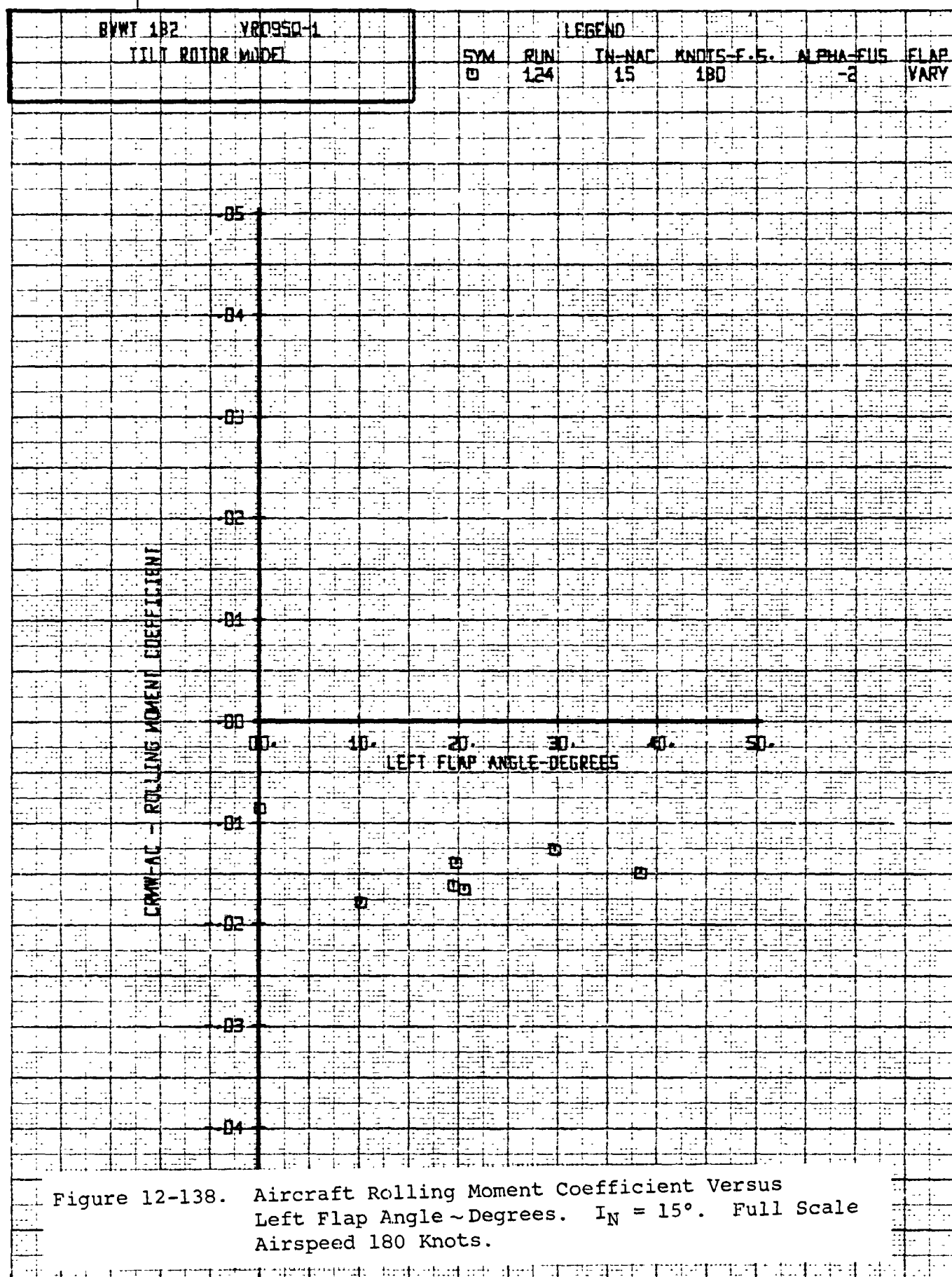


Figure 12-137. Aircraft Yawing Moment Coefficient Versus Left Flap Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



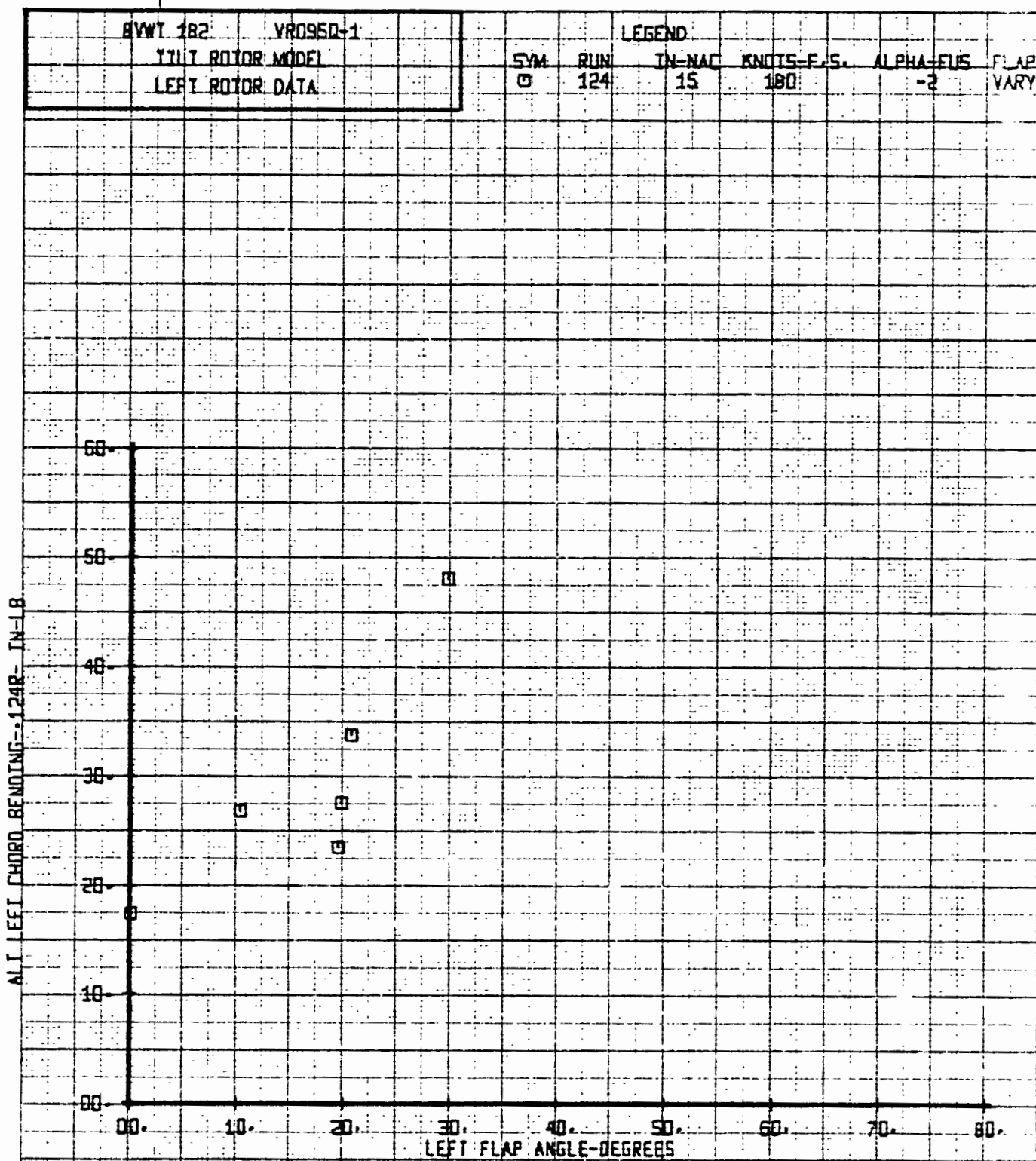


Figure 12-139. Alt. Left Chord Bending Versus Left Flap Angle
~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180
Knots.

BVWT 182 VRO950-1

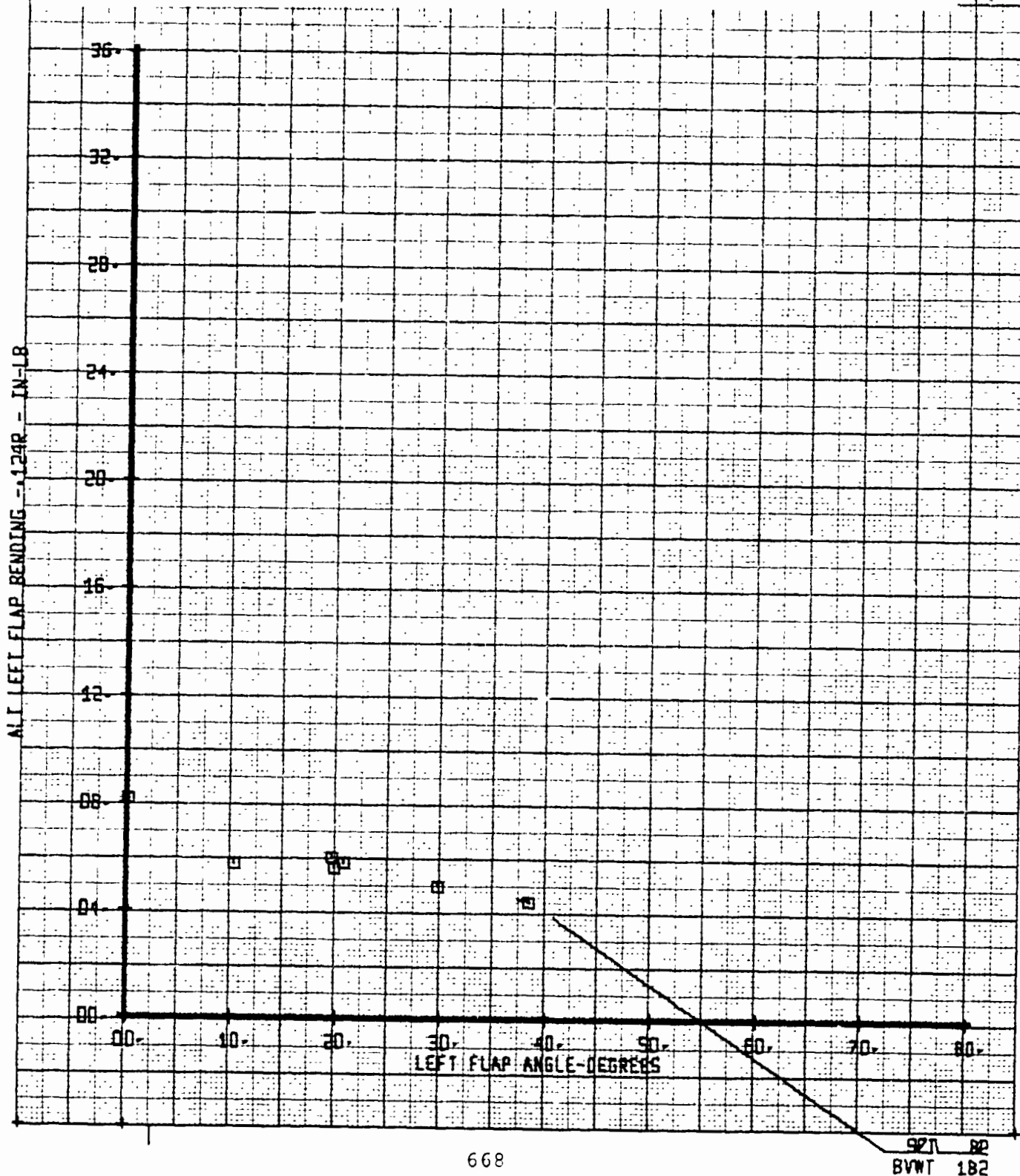
LEFT ROTOR MODEL

LEFT ROTOR DATA

LEGEND

SYM
□RUN
124IN-NAC
15KNOTS-F.S.
180ALPHA-FUS
-2FLAP
VARY

Figure 12-140. Alt. Left Flap Bending Versus Left Flap Angle
~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180
Knots.



BVWT 182 YB0950-1

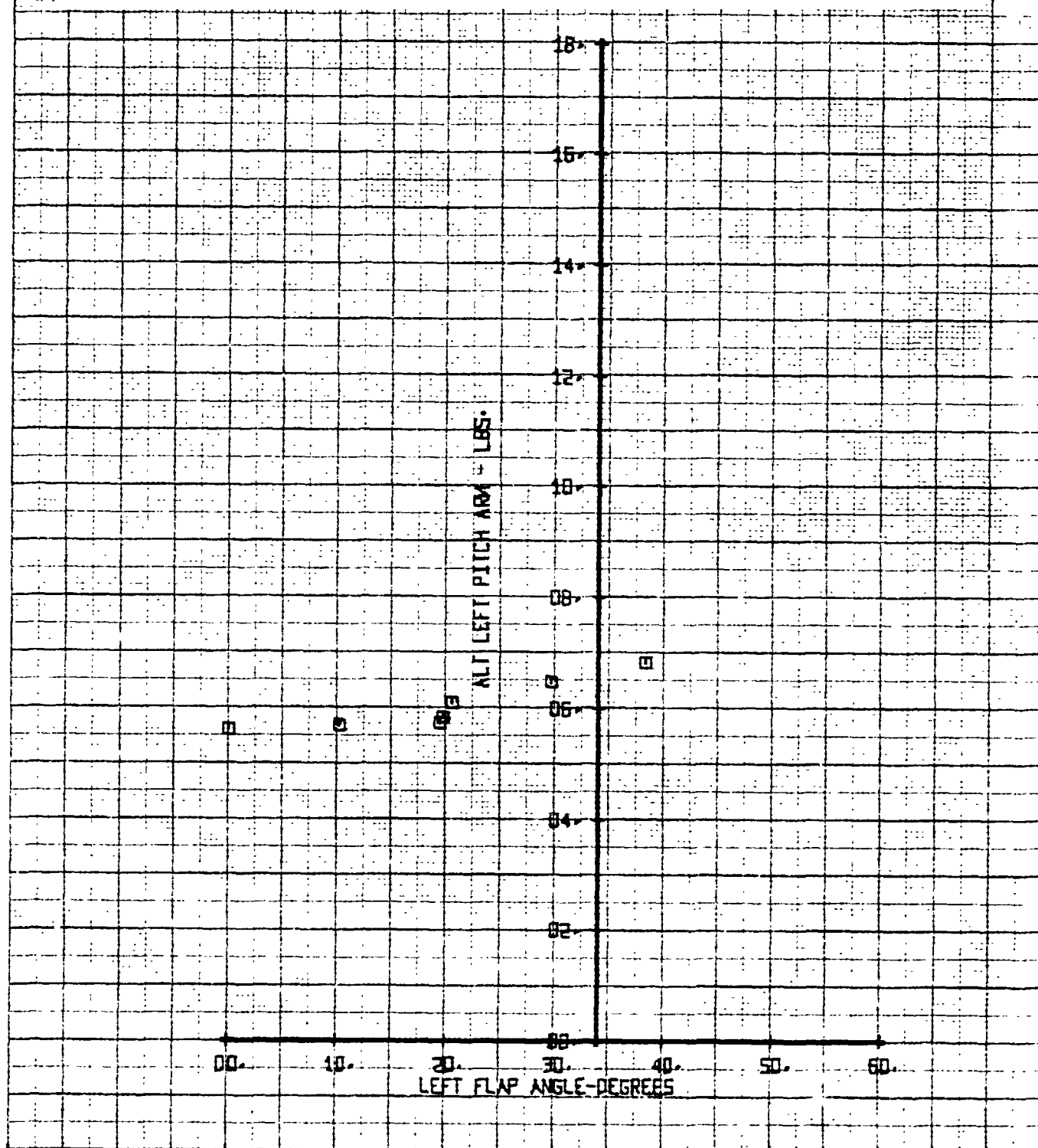
TILT ROTOR MODEL

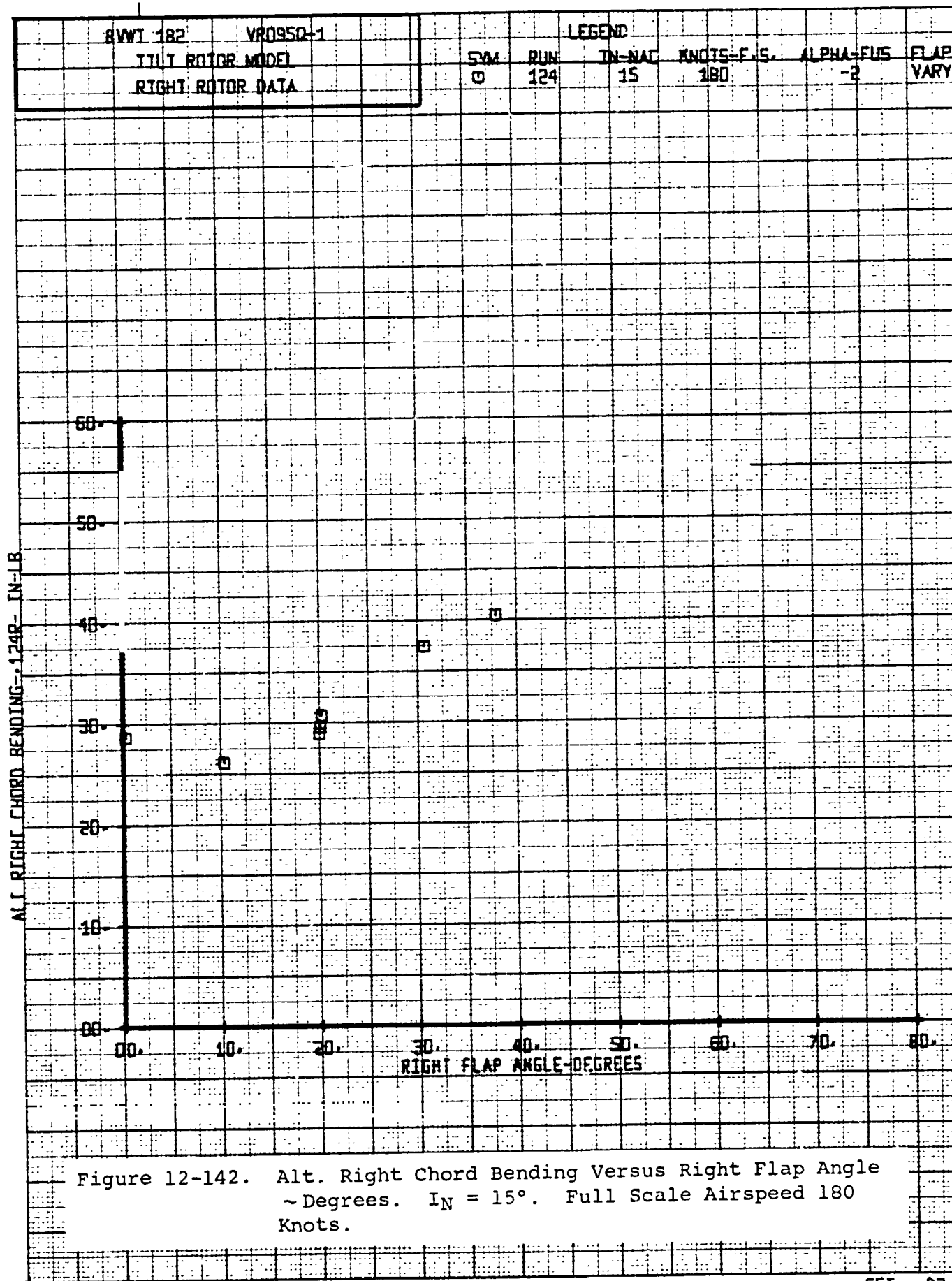
LEFT ROTOR DATA

LEGEND

SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-ELUS	FLAP
□	124	15	180	-2	V Y

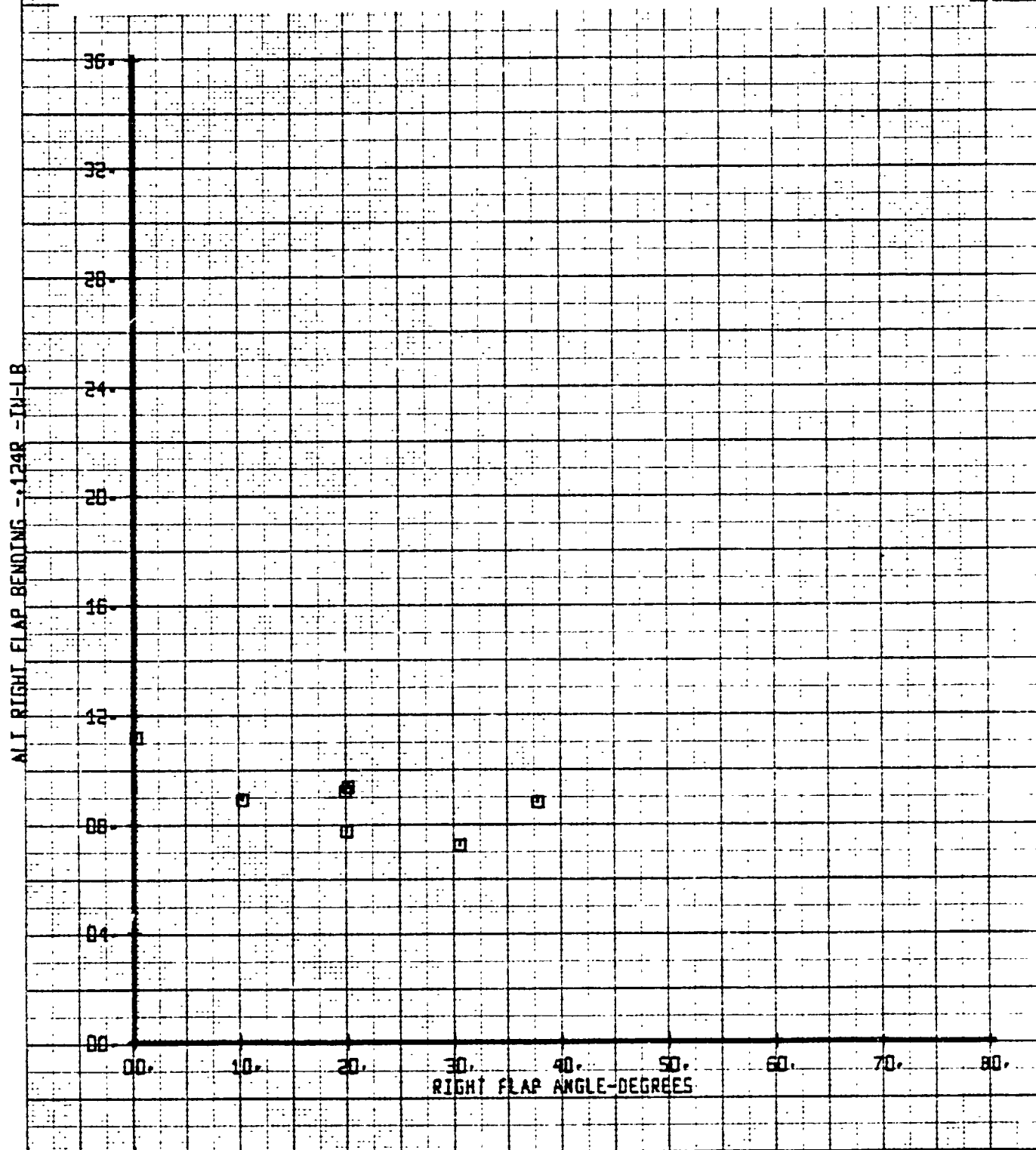
Figure 12-141. Alt. Left Pitch Link Load Versus Left Flap Angle~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





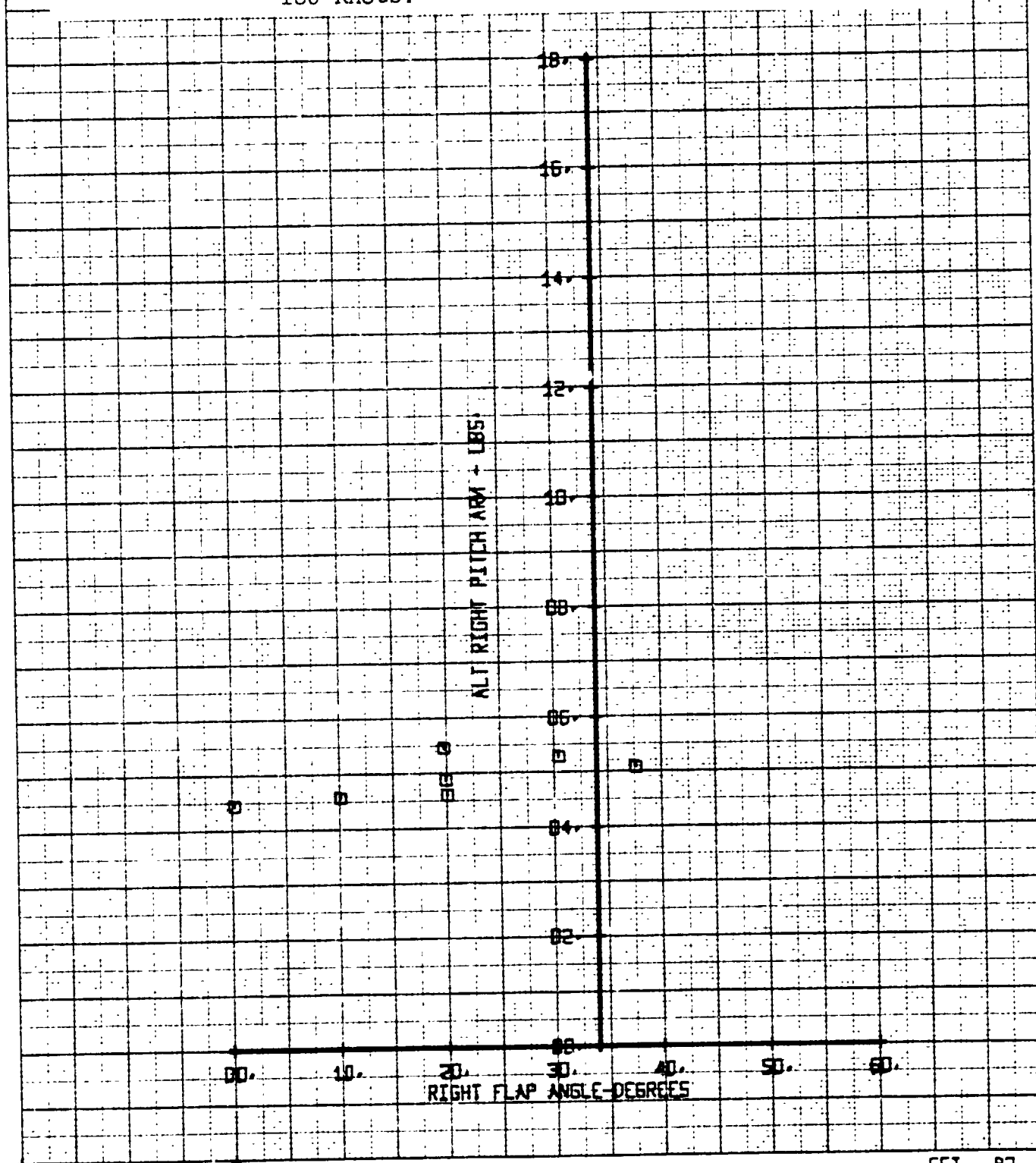
BVWT 182	VR0950-1	LEGEND				
YU1 ROTOR MODEL		SYM	RUN	IN-WAC	KNOTS-E.S.	ALPHA-EUS
RIGHT ROTOR DATA		Q	124	15	180	-2
						FLAP VARY

Figure 12-143. Alt. Right Flap Bending Versus Right Flap Angle ~Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



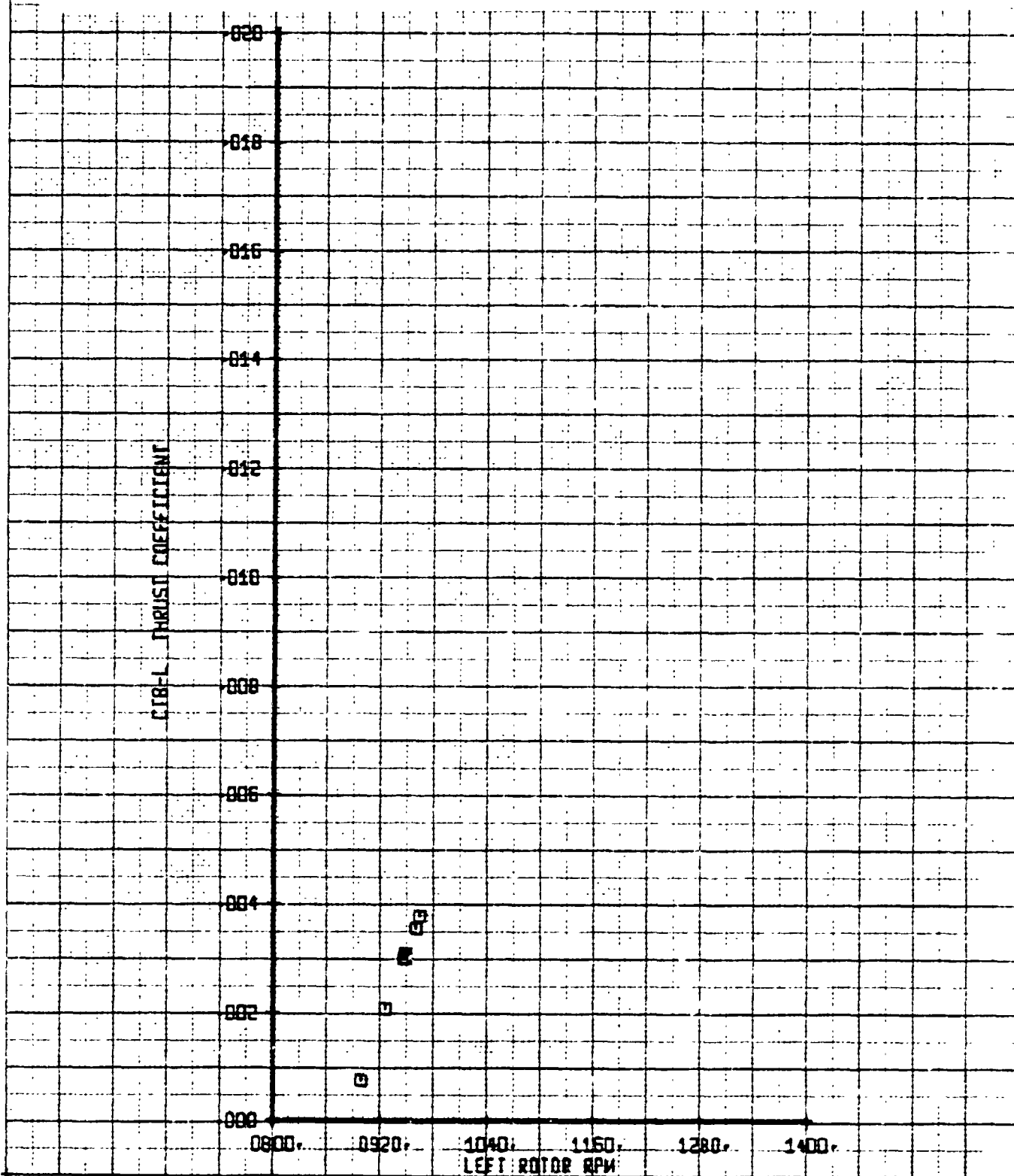
BVWT 182		YR0950-1		LEGEND			
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS	FLAP
RIGHT ROTOR DATA		0	124	15	180	-2	VARY

Figure 12-144. Alt. Right Pitch Link Load Versus Right Flap Angle ~ Degrees. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BYWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODE		SW	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	125	15	180	-2
						E:AP
						>0

Figure 12-145. Left Rotor Thrust Coefficient Versus Rotor RPM.
 $\alpha_N = 5^\circ$. Full Scale Airspeed 180 Knots.



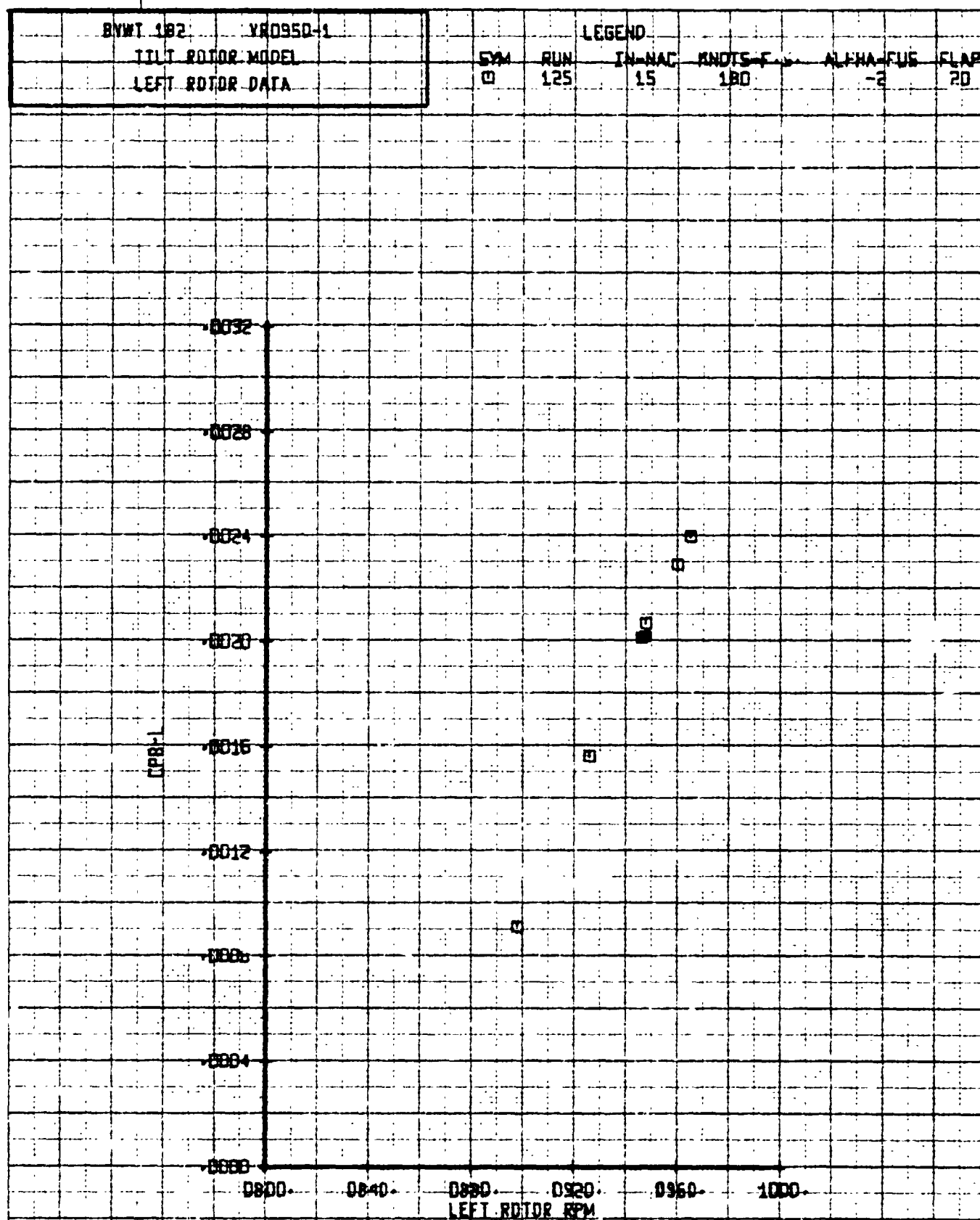


Figure 12-146. Left Rotor Power Coefficient Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

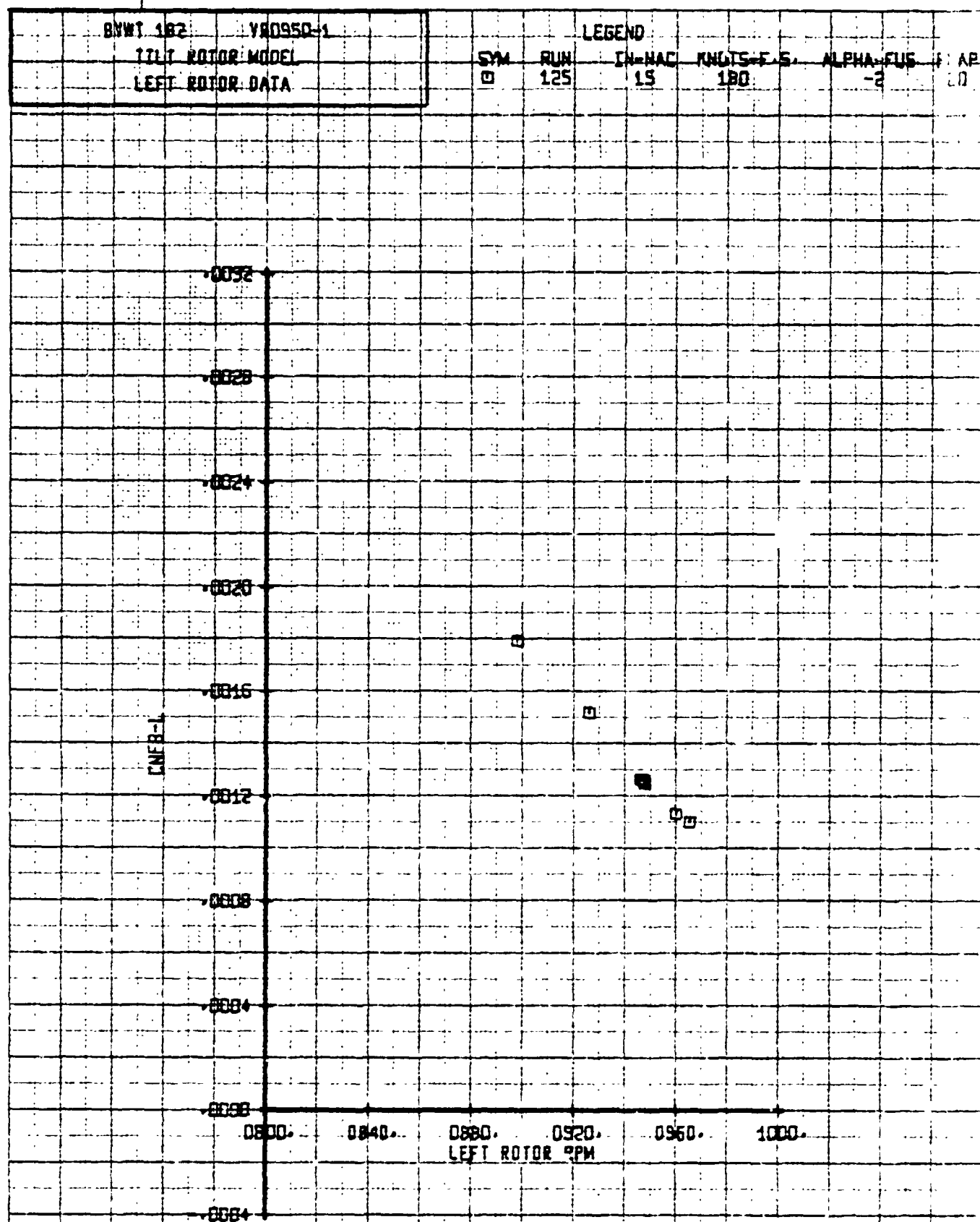
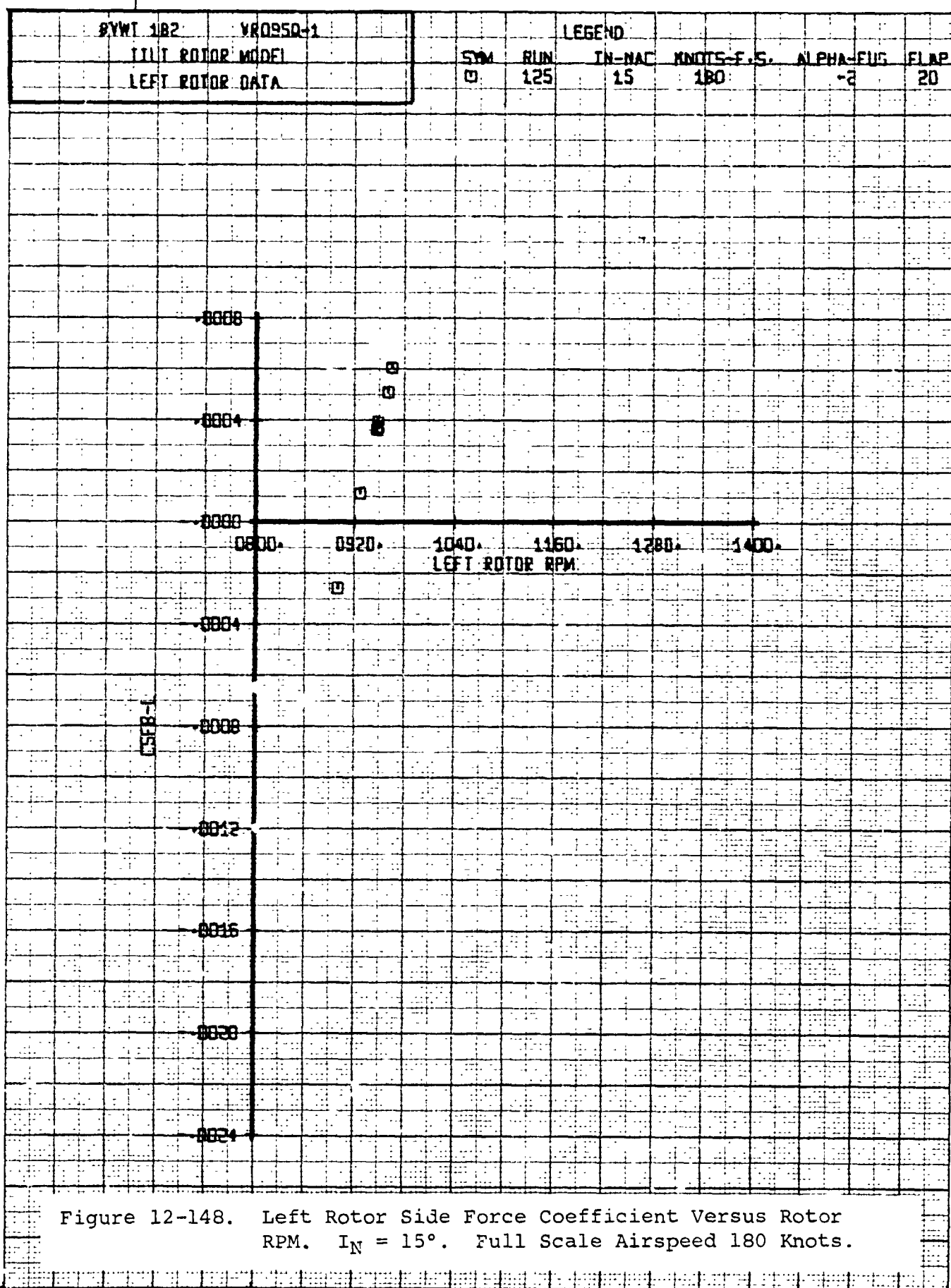


Figure 12-147. Left Rotor Normal Force Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



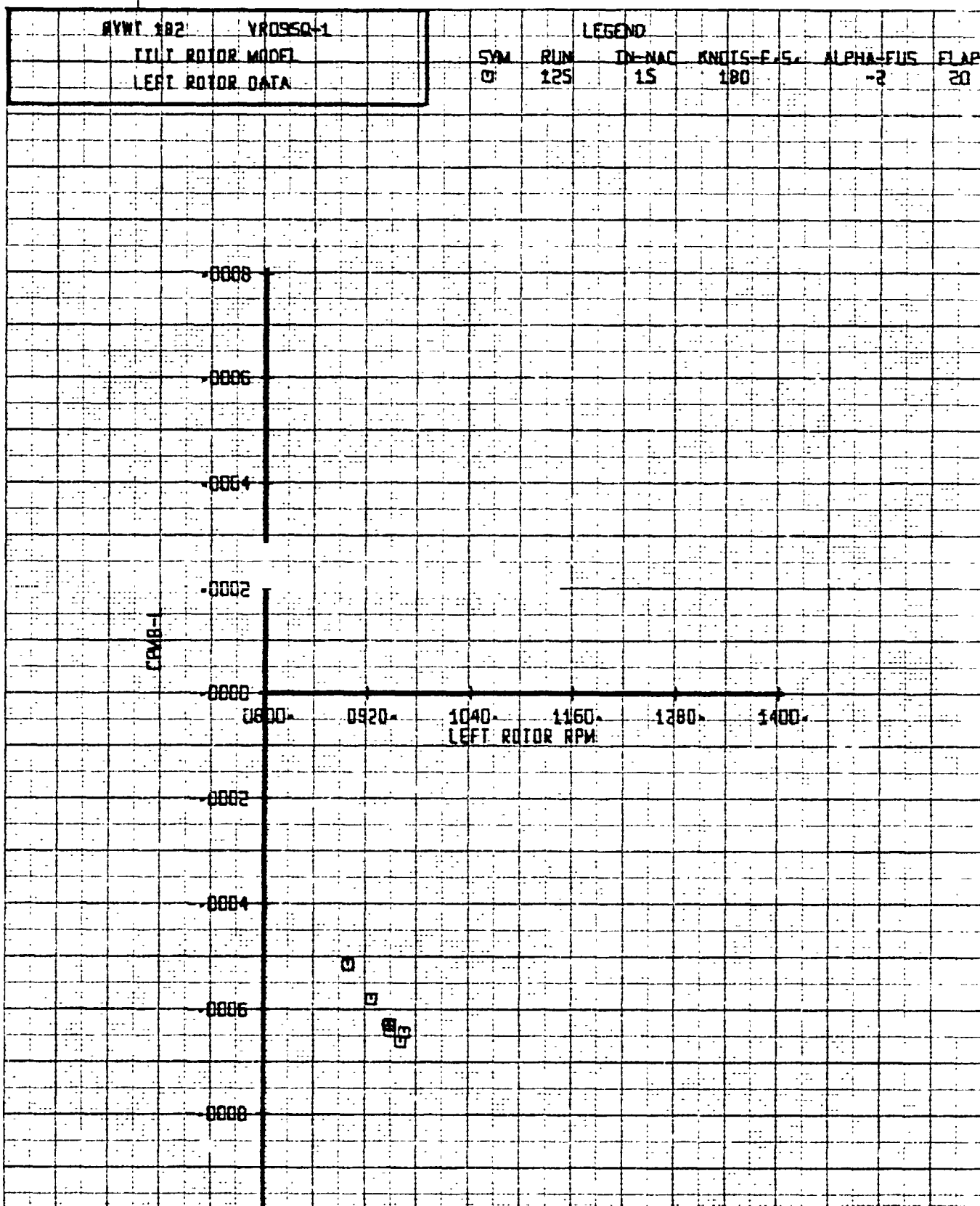
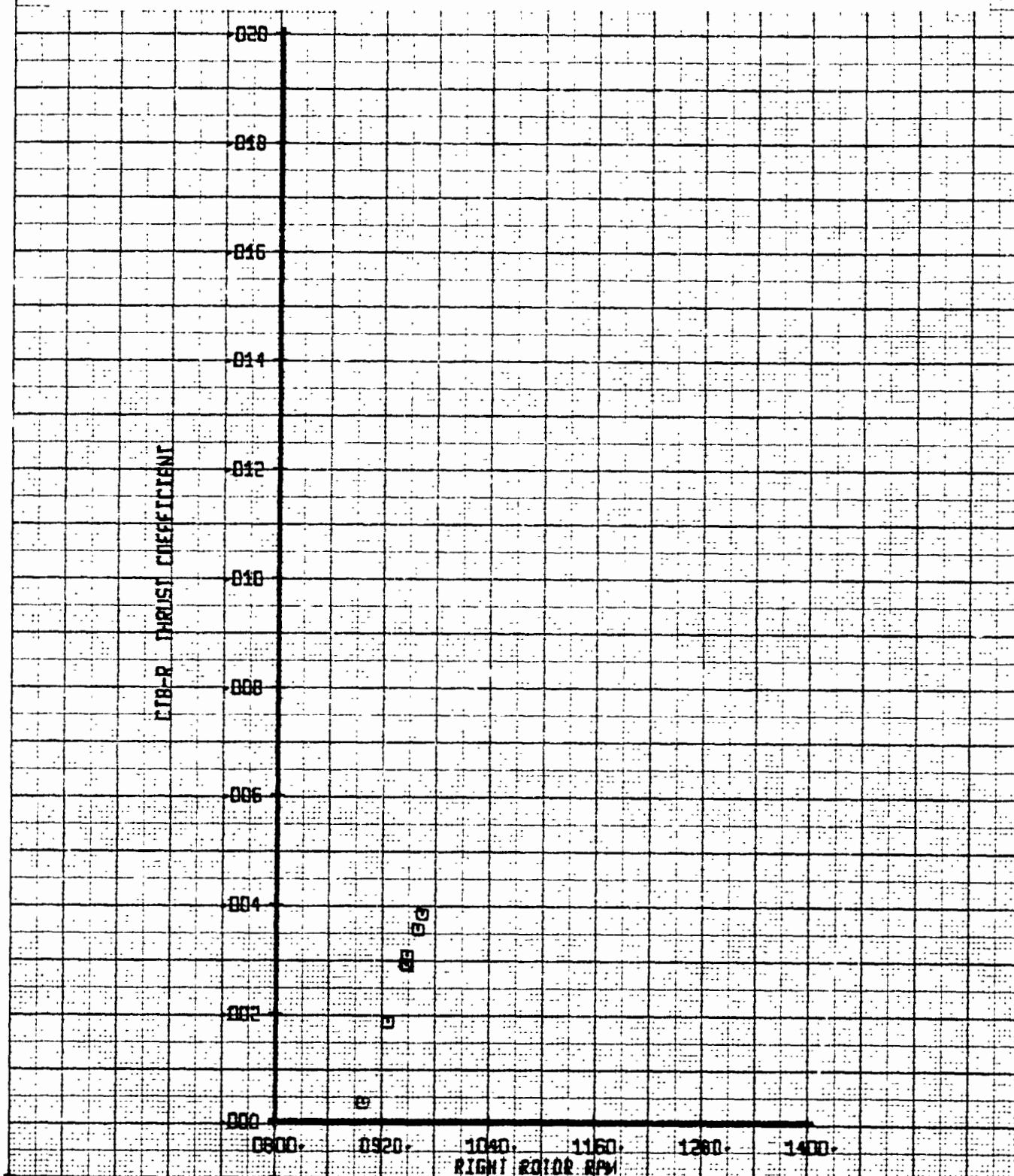


Figure 12-149. Left Rotor Pitching Moment Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-MAC	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		□	125	15	180	-2
						FLAP 20

Figure 12-151. Right Rotor Thrust Coefficient Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



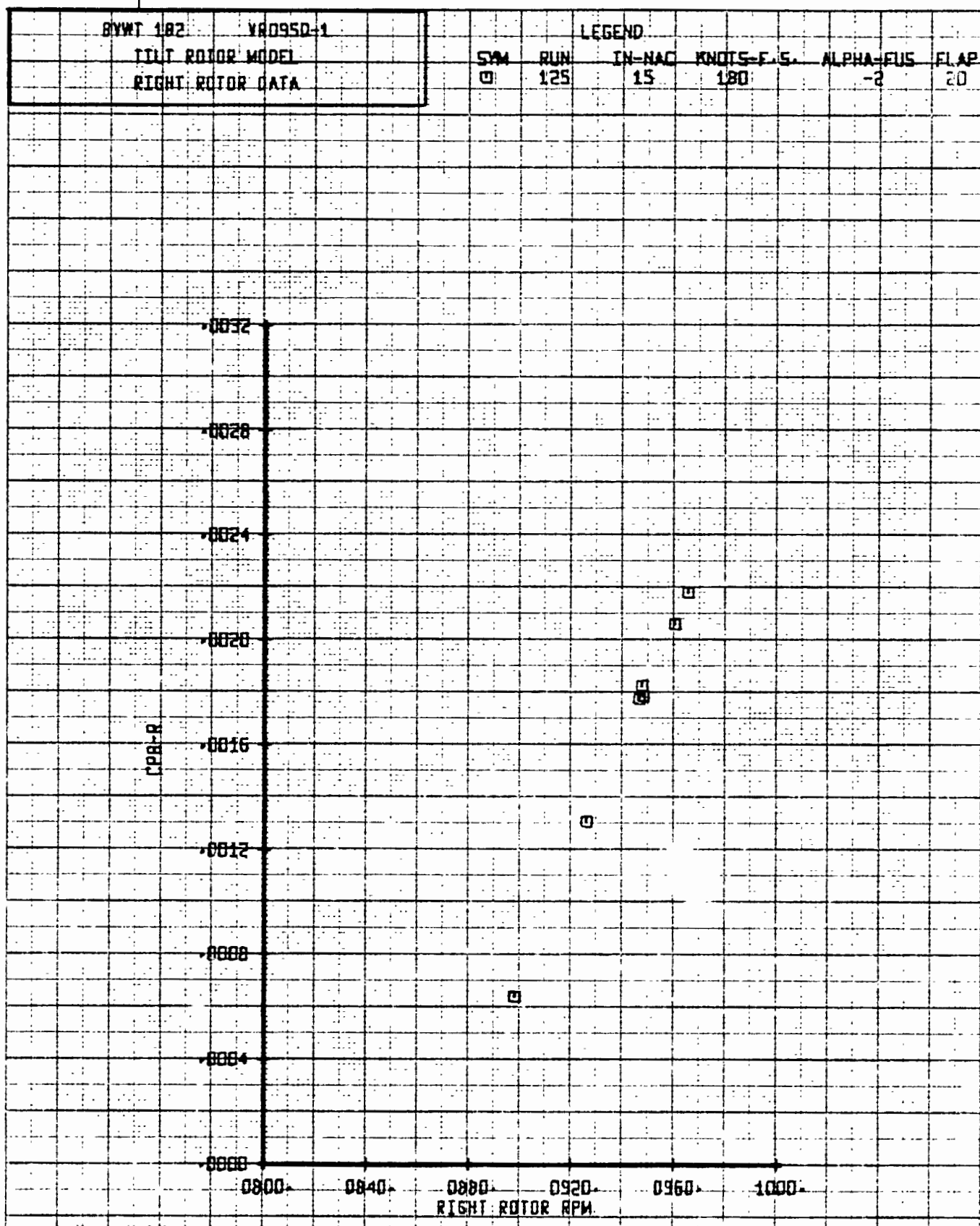


Figure 12-152. Right Rotor Power Coefficient Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

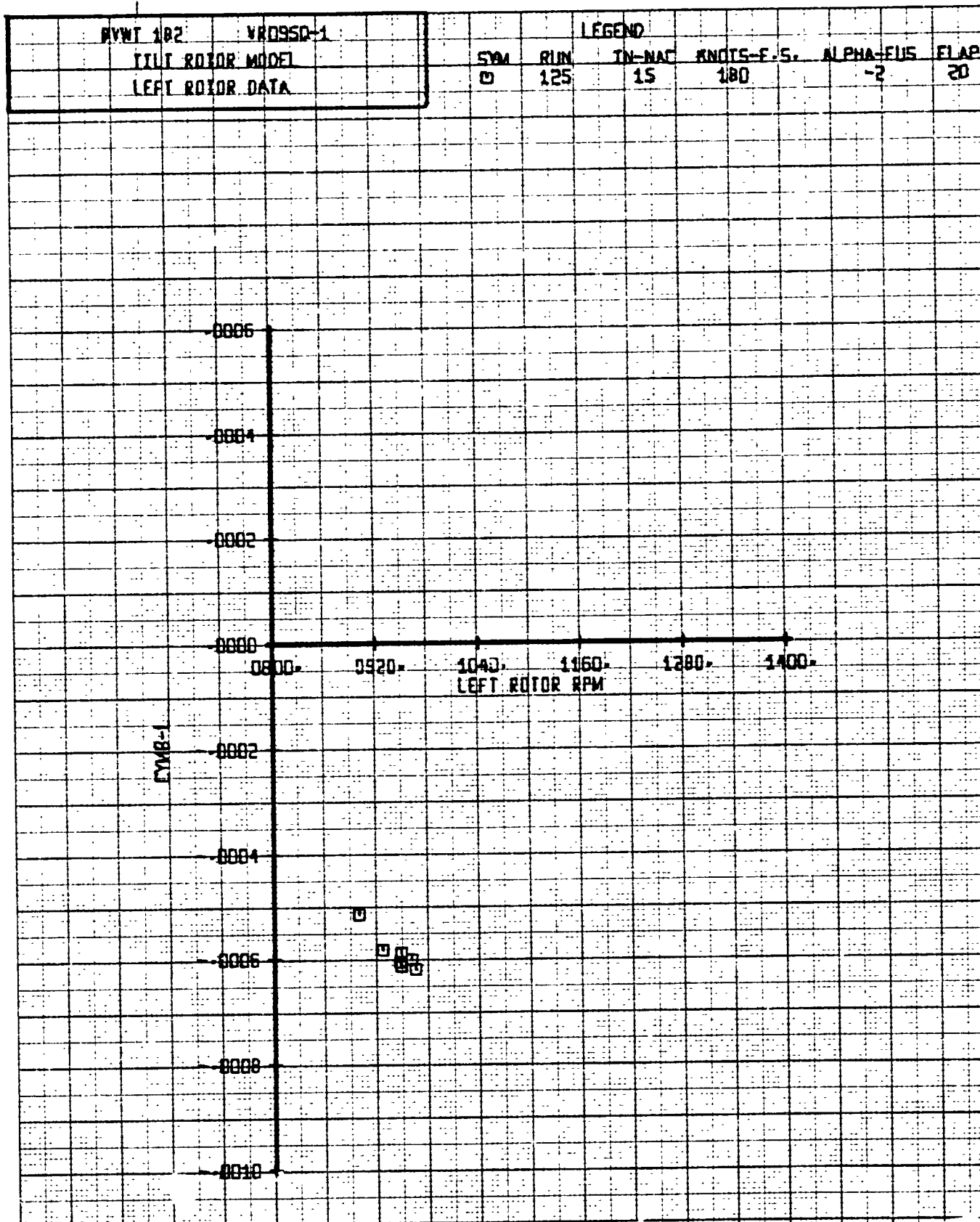


Figure 12-150. Left Rotor Yawing Moment Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

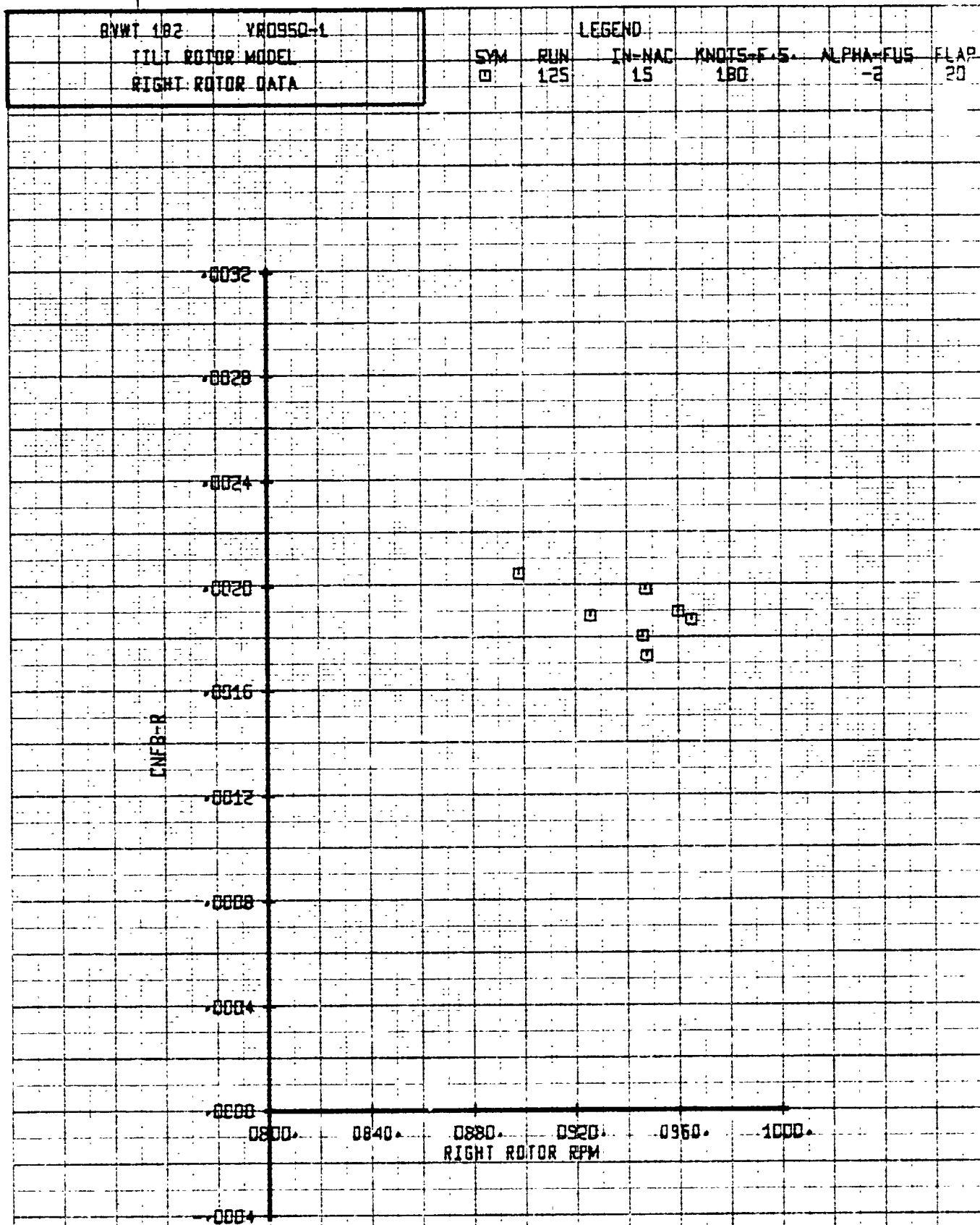


Figure 12-153. Right Rotor Normal Force Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

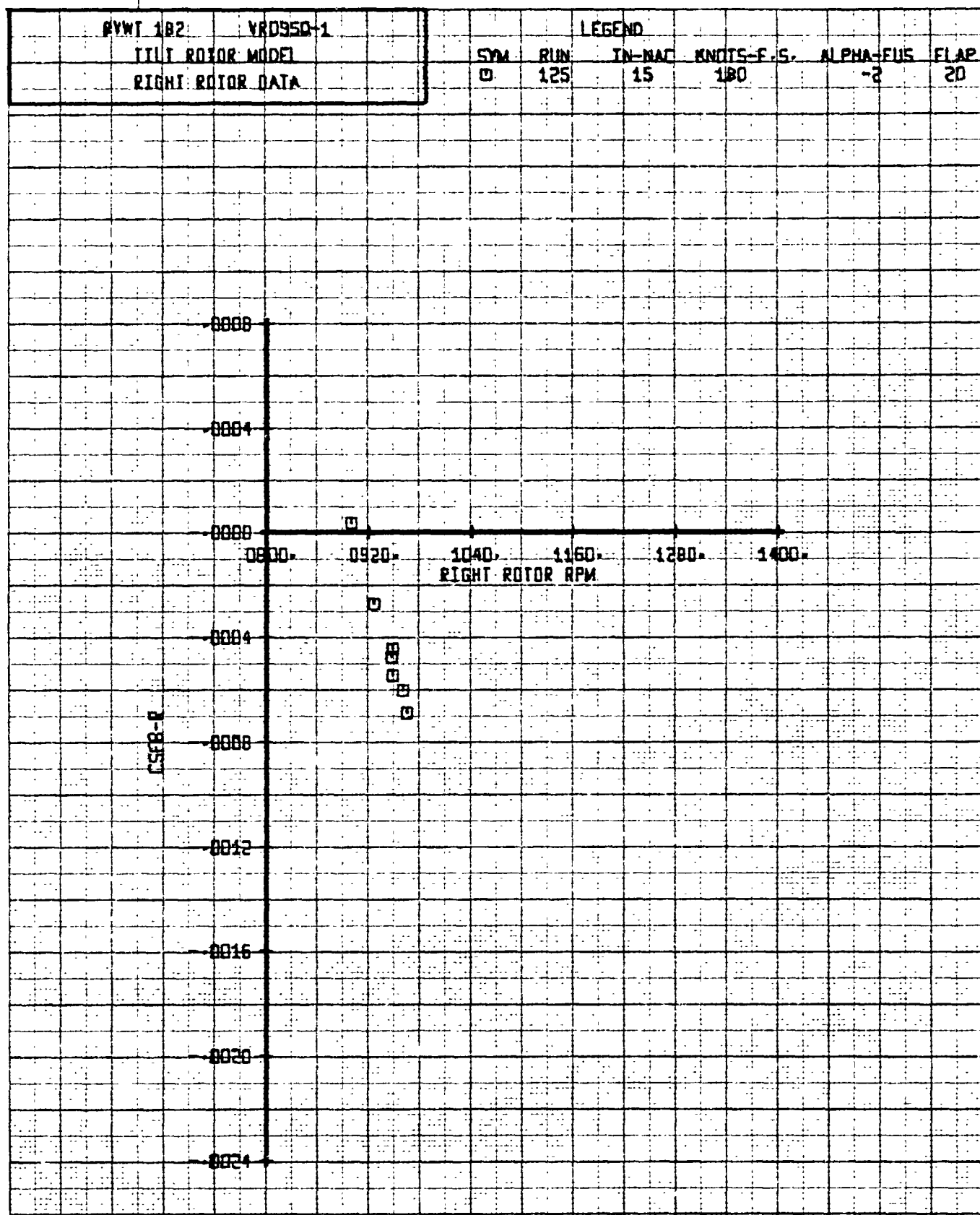


Figure 12-154. Right Rotor Side Force Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

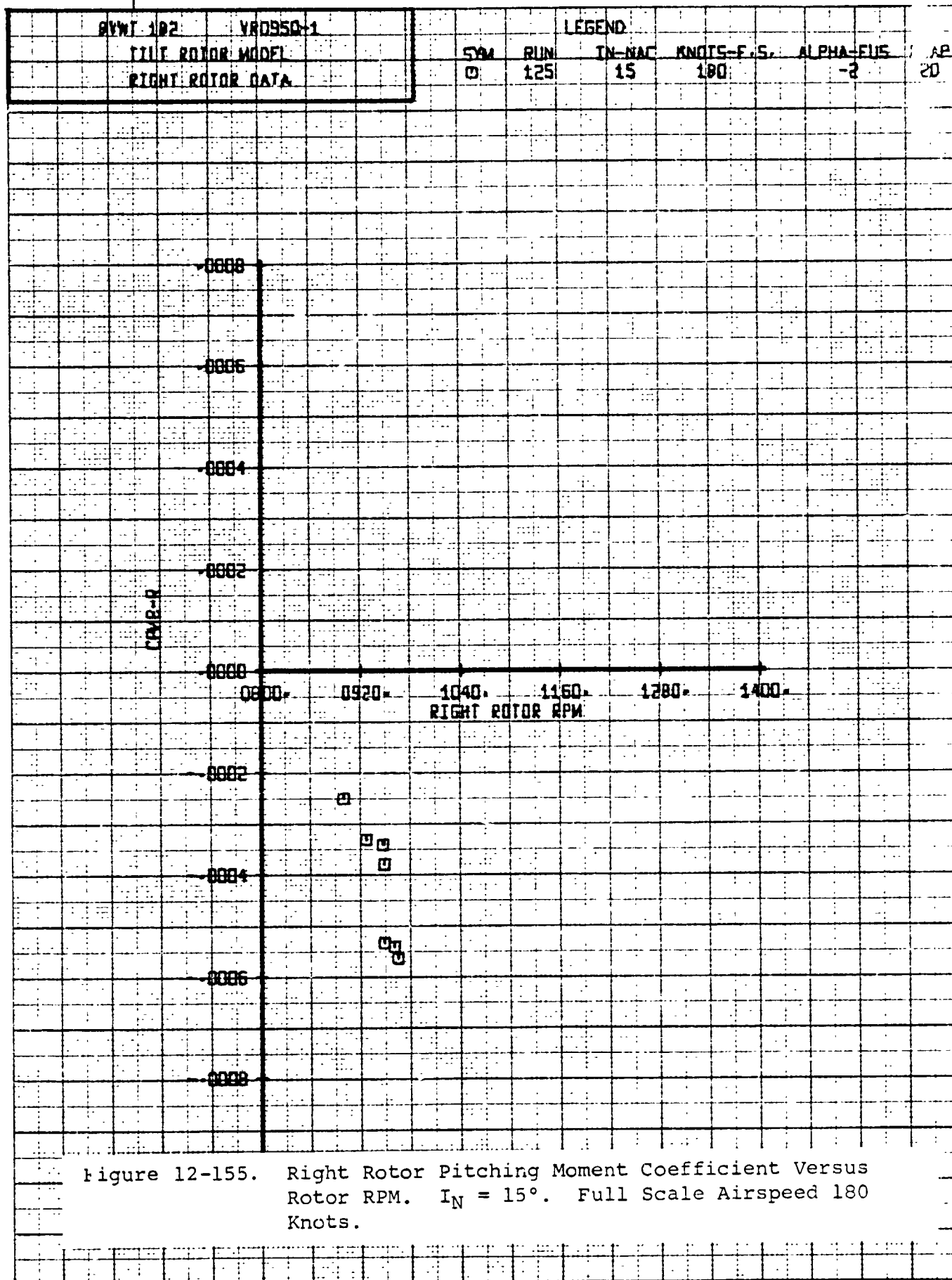
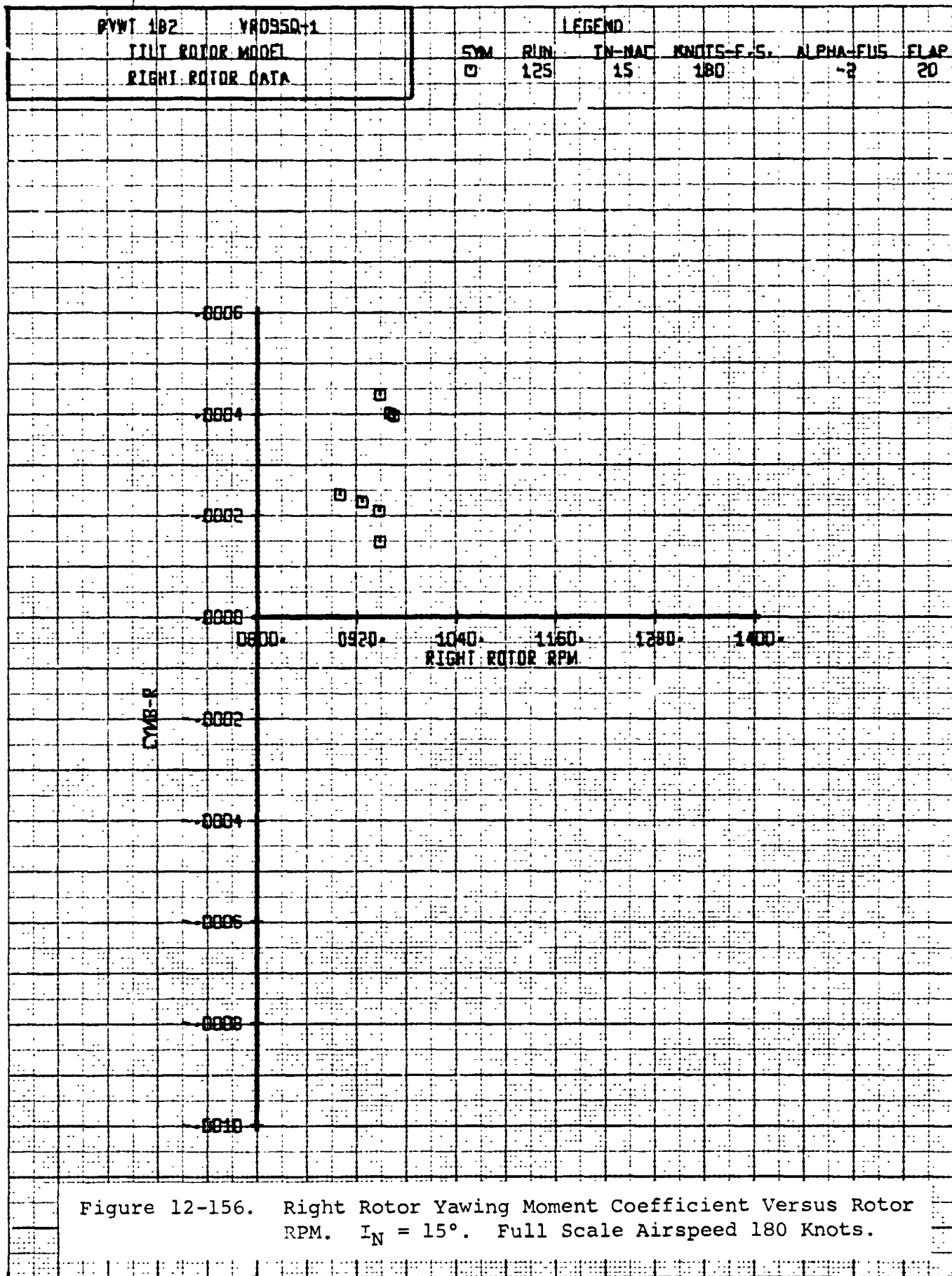
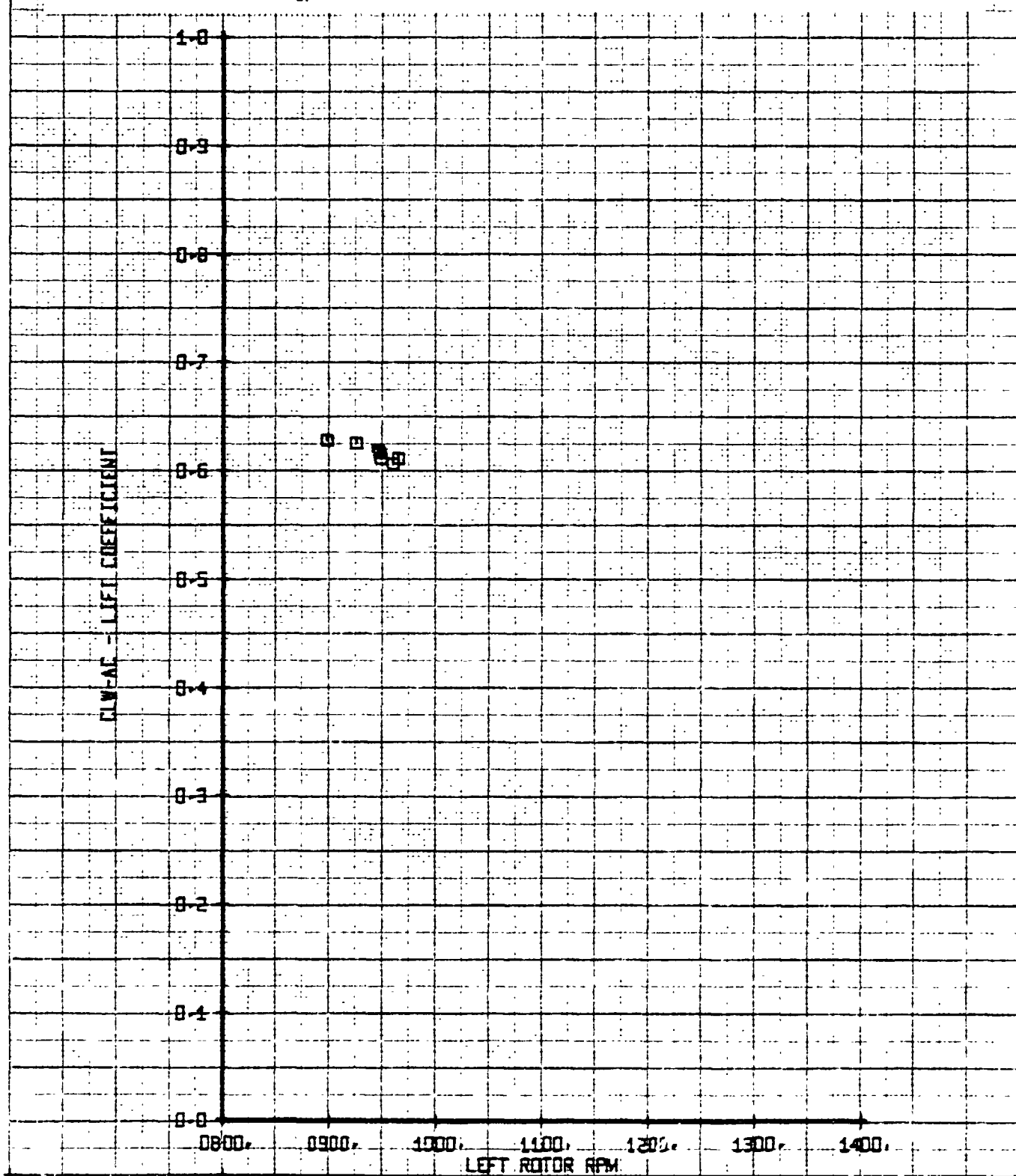


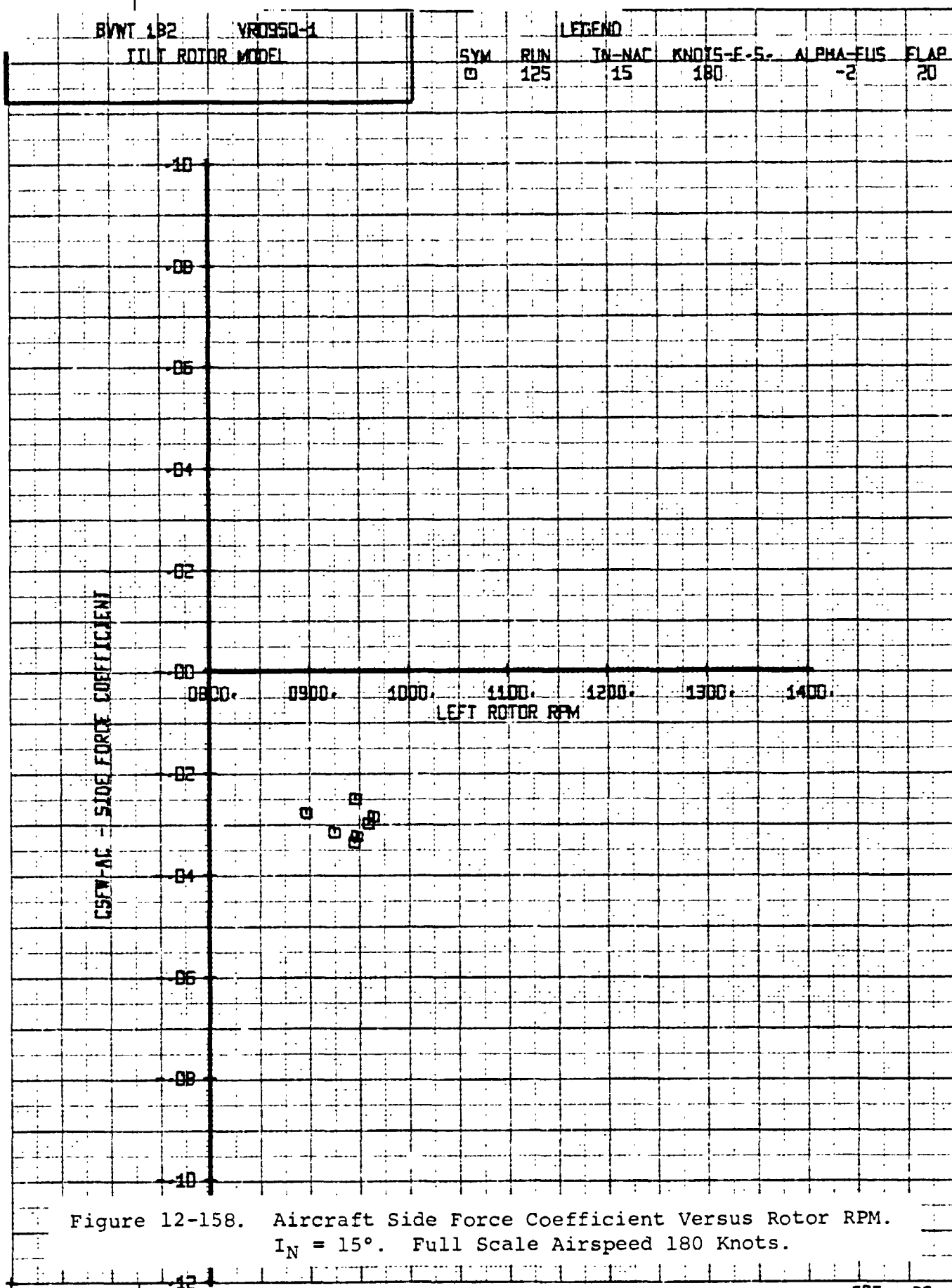
Figure 12-155. Right Rotor Pitching Moment Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182	VR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.F.	ALPHA-FUS
		□	125	15	180	-2
						FLAP 0

Figure 12-157. Aircraft Lift Coefficient Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.





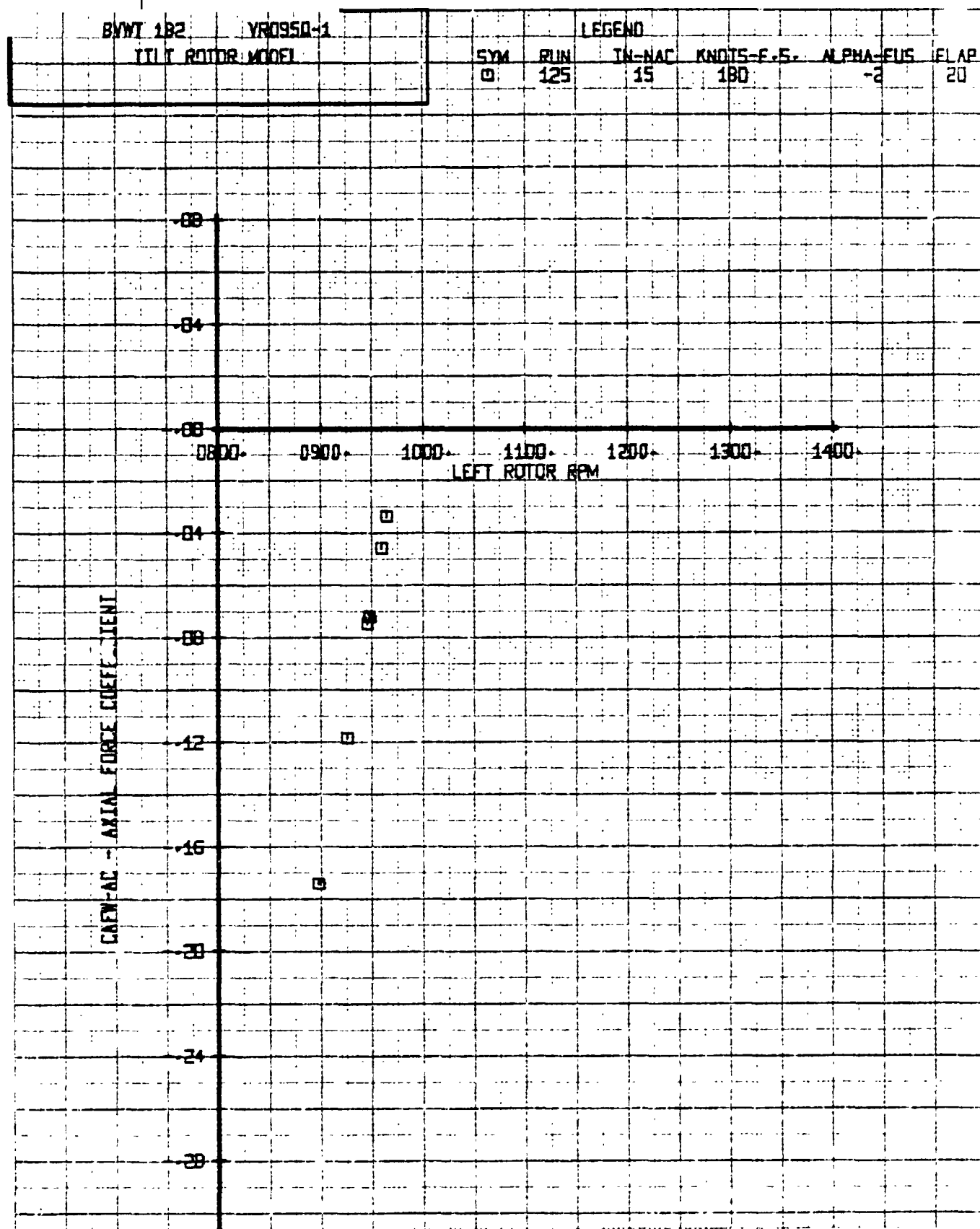


Figure 12-159. Aircraft Axial Force Coefficient Versus Rotor RPM.
IN = 15°. Full Scale Airspeed 180 Knots.

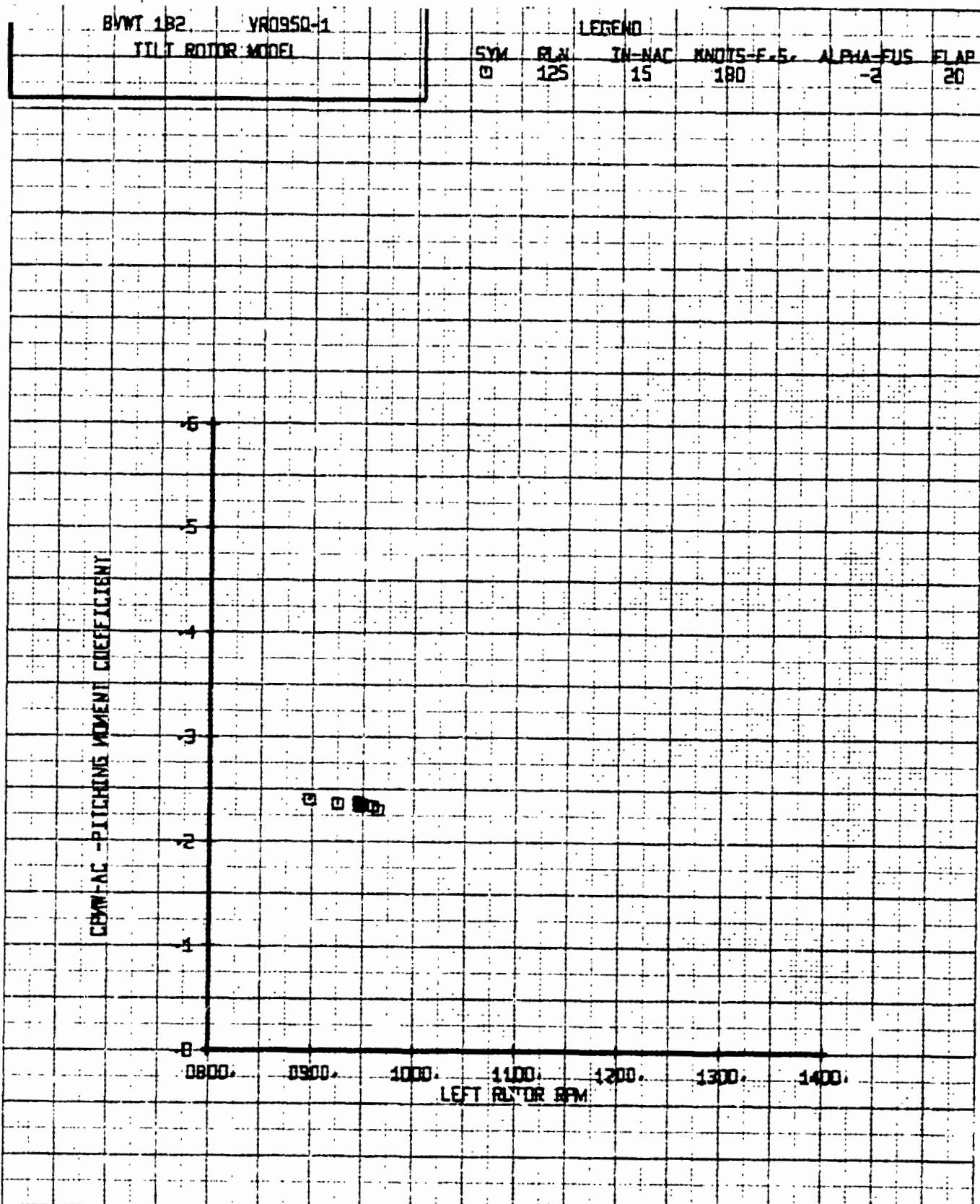


Figure 12-160. Aircraft Pitching Moment Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

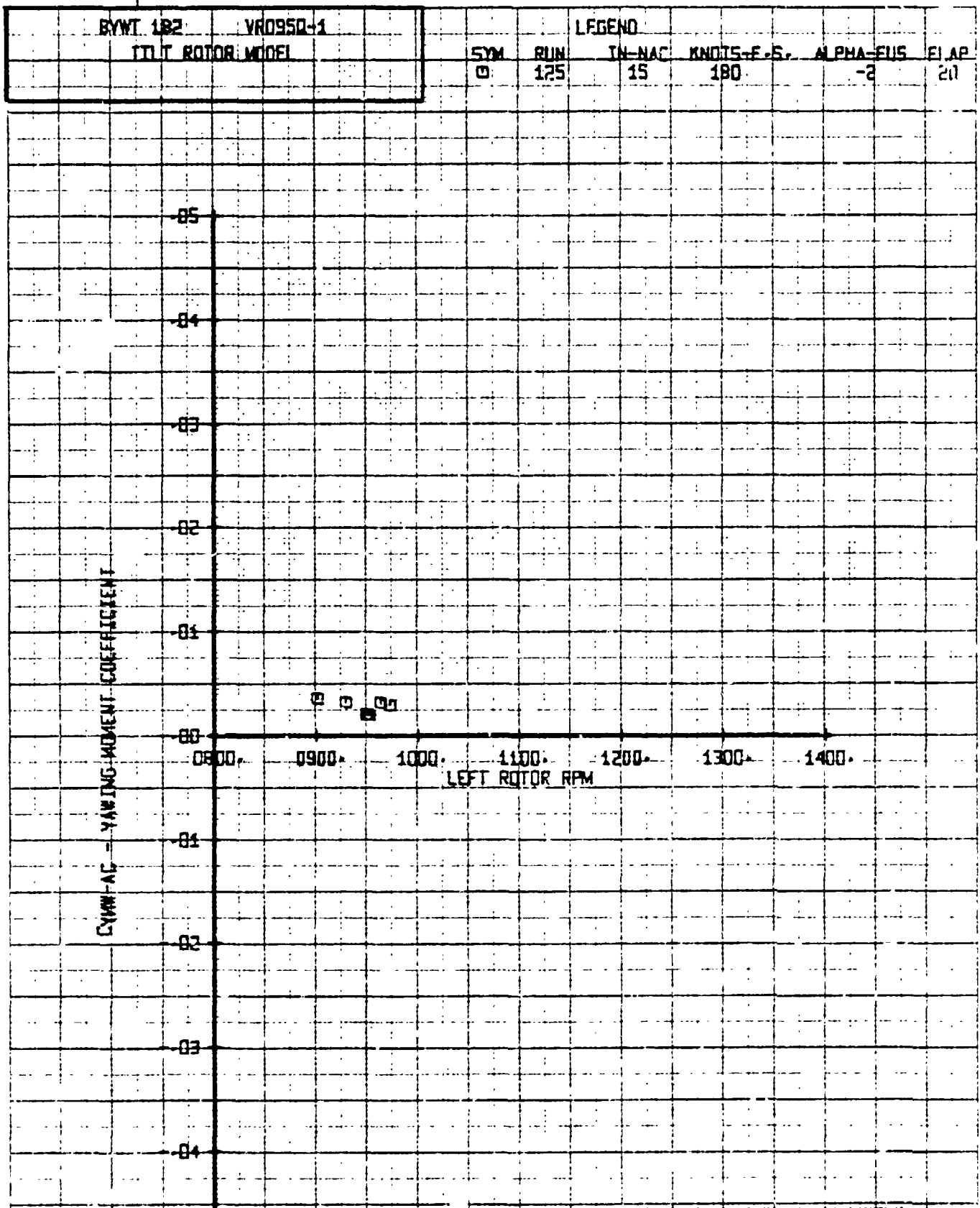
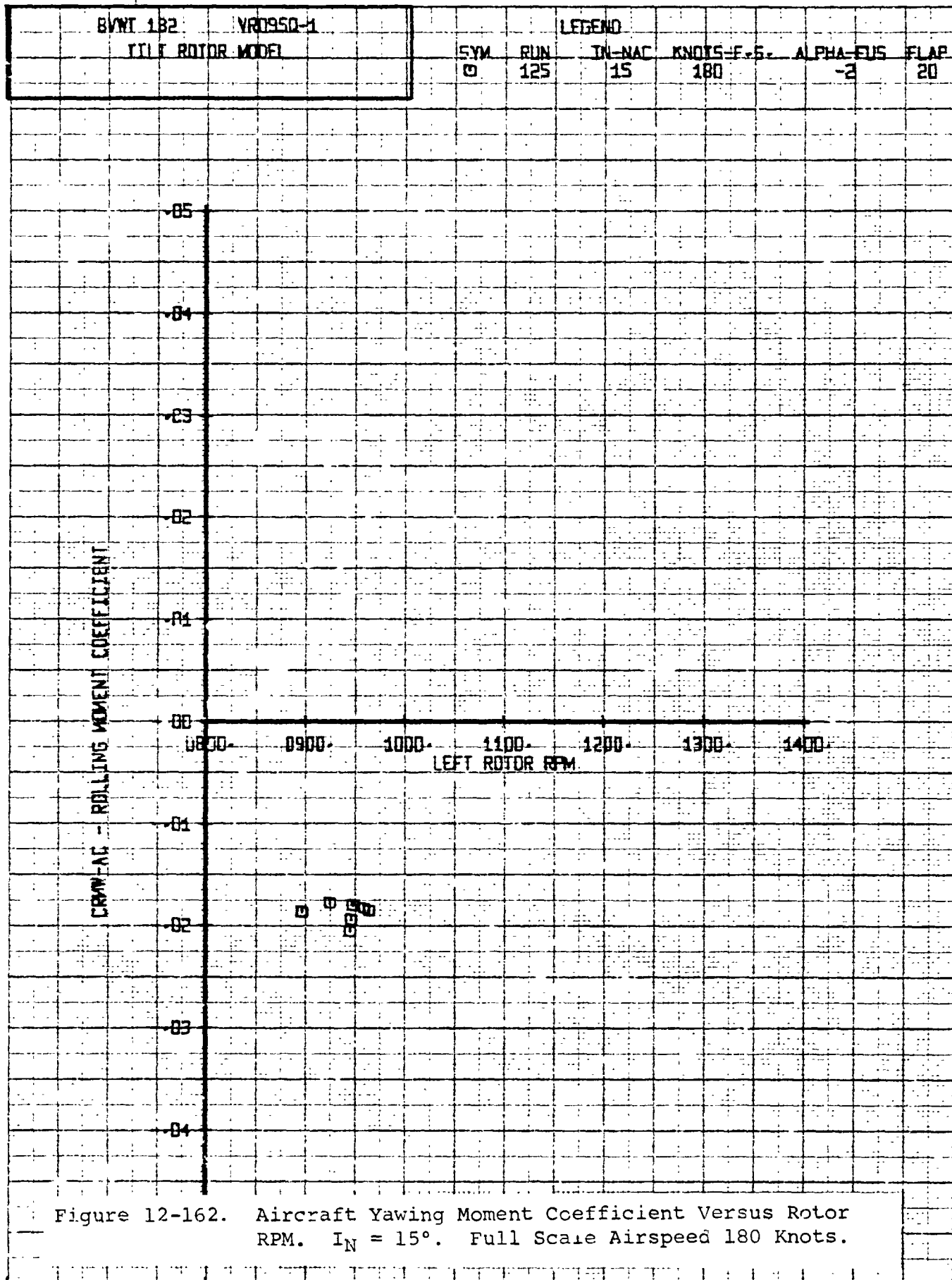


Figure 12-161. Aircraft Rolling Moment Coefficient Versus Rotor RPM. $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



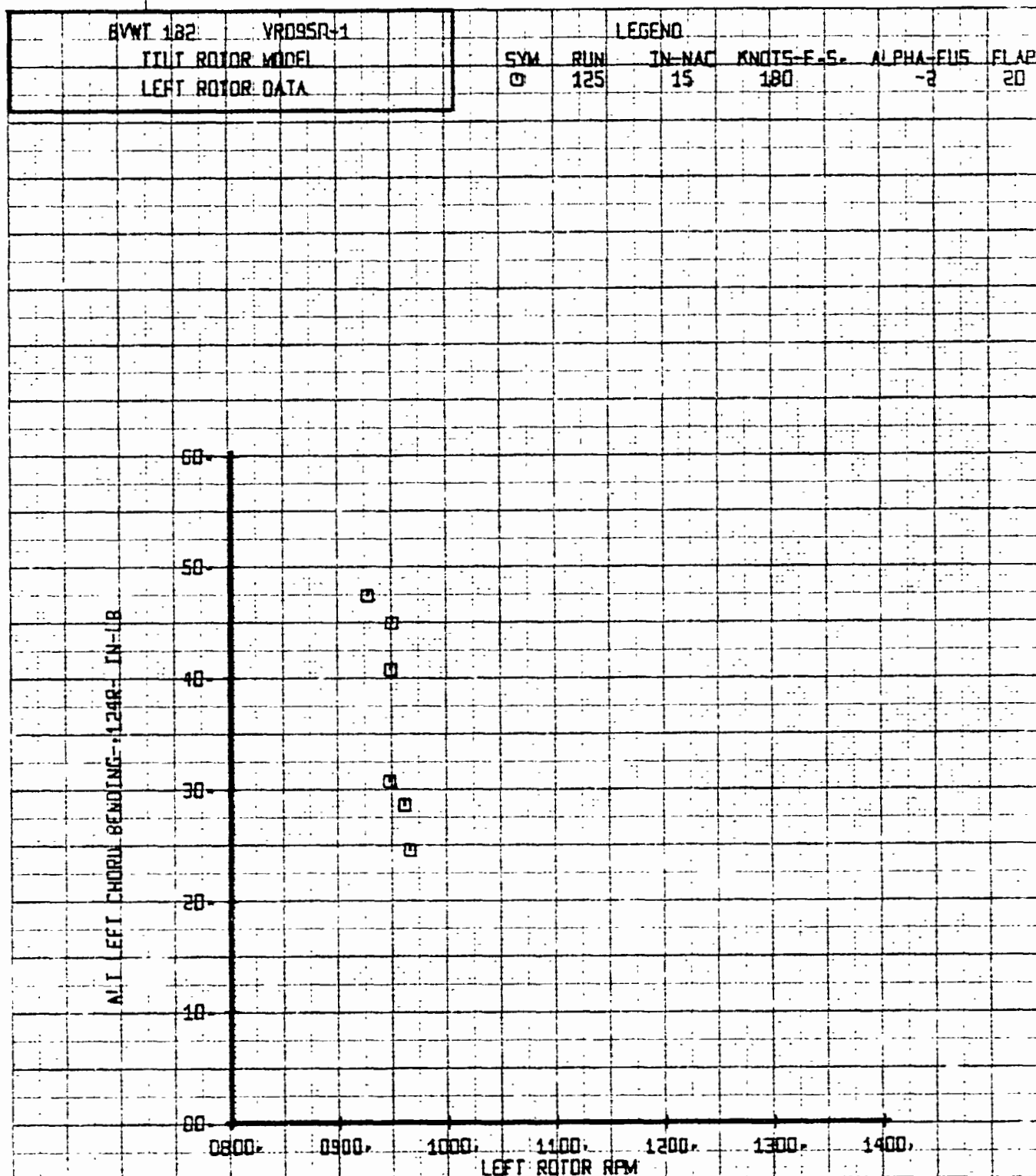
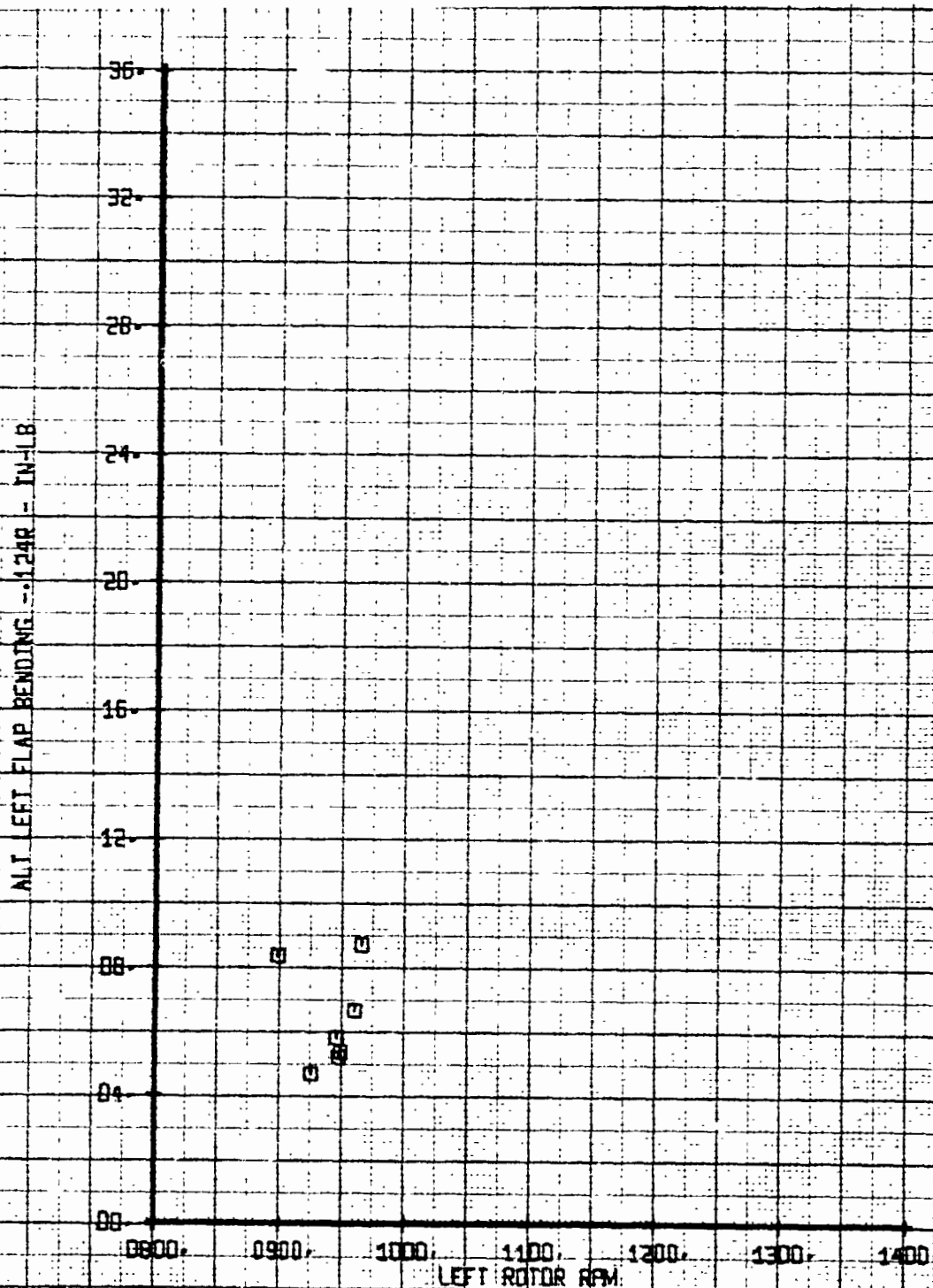


Figure 12-163. Alt. Left Chord Bending Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

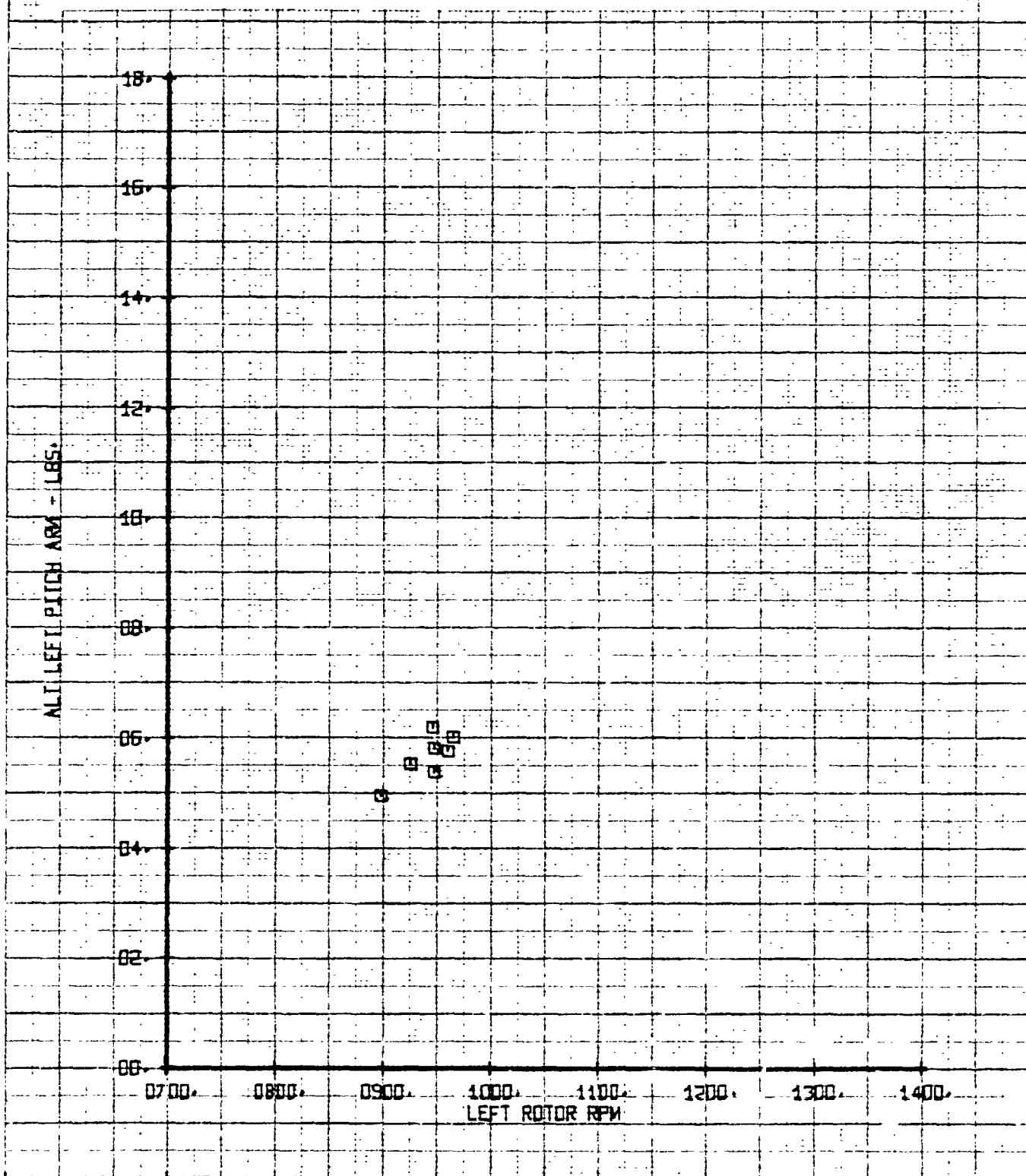
BYWT 182	VR0950-1	LEGEND				
LEFT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		□	125	15	180	-2
						FLAP 20

Figure 12-164. Alt. Left Flap Bending Versus Rotor RPM.
IN = 15°. Full Scale Airspeed 180 Knots.



BVWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-FUS
LEFT ROTOR DATA		0	125	15	180	-2
						FLAP 20

Figure 12-165. Alt. Left Pitch Link Load Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



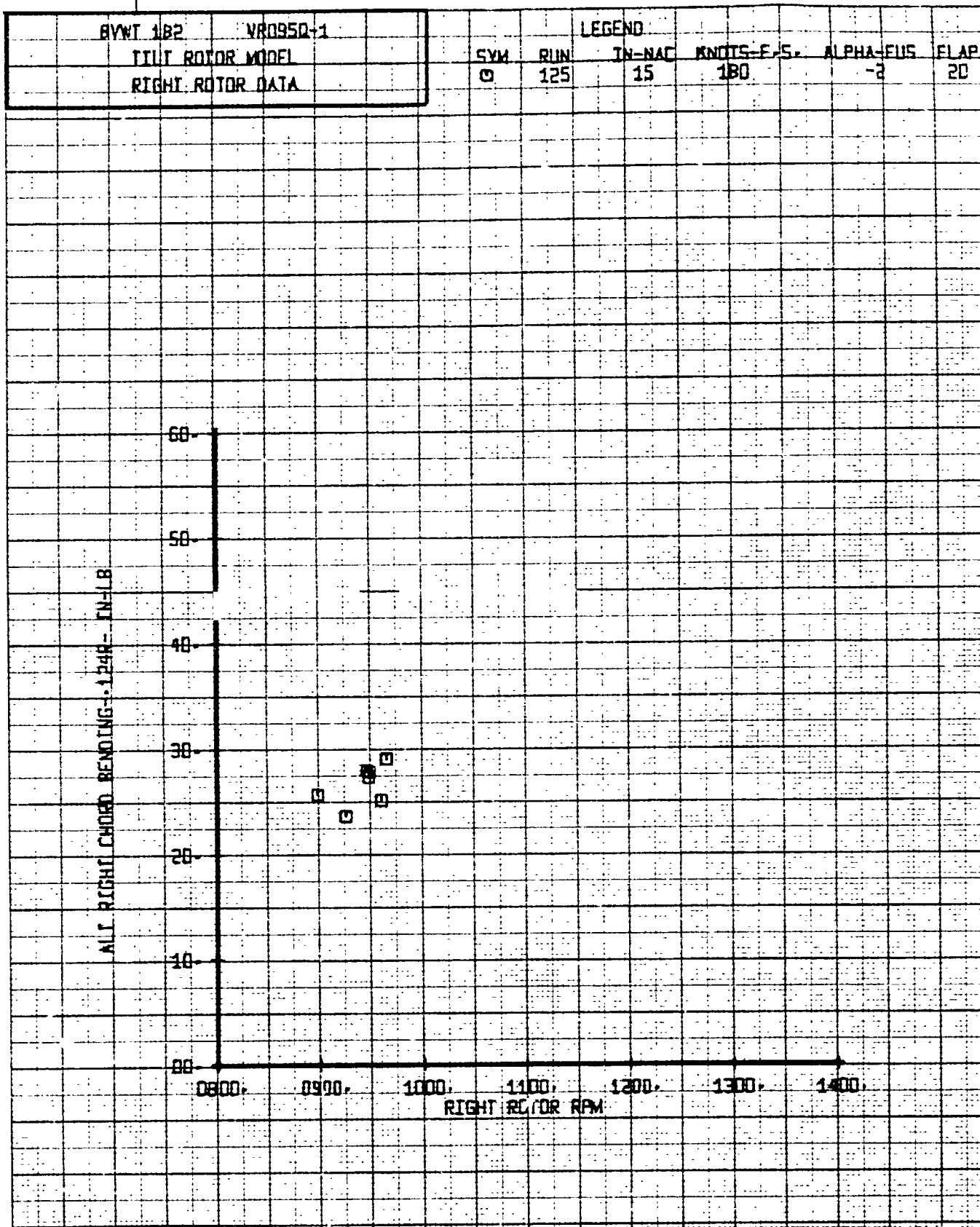
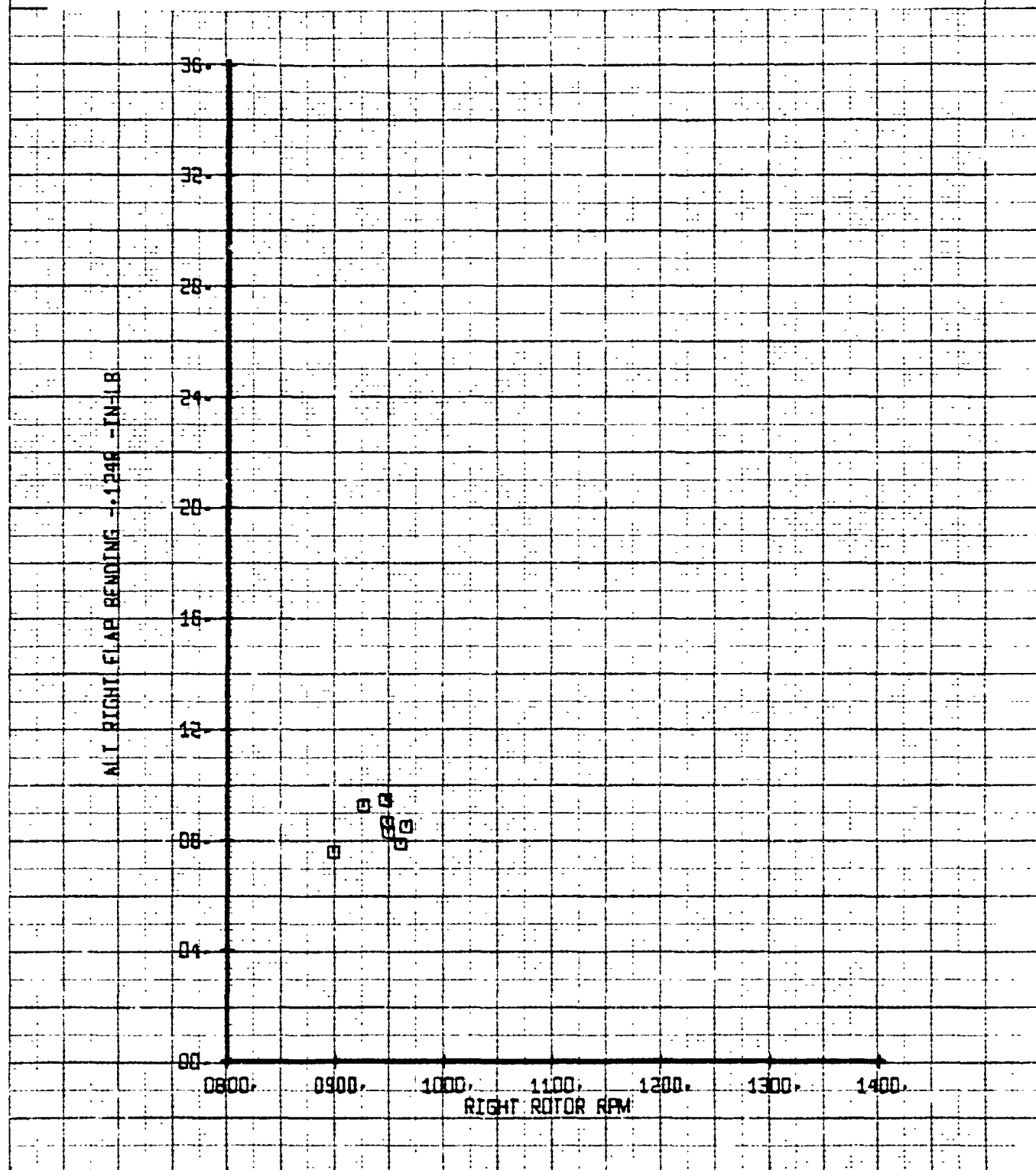


Figure 12-166. Alt. Right Chord Bending Versus Rotor RPM.
 IN = 15°. Full Scale Airspeed 180 Knots.

BVWT 182		VROSSQ-1		LEGEND			
LEFT ROTOR MODEL		RIGHT ROTOR DATA		SVM	RUN	IN-NAC	KNOTS-F.S.
				0	125	15	180
							ALPHA-FUS
							-2
							FLAP
							20

Figure 12-167. Alt. Right Flap Bending Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.



BVWT 182	YR0950-1	LEGEND				
TILT ROTOR MODEL		SYM	RUN	IN-NAC	KNOTS-F.S.	ALPHA-DEG
RIGHT ROTOR DATA		0	125	15	180	-2
						20

Figure 12-168. Alt. Right Pitch Link Load Versus Rotor RPM.
 $I_N = 15^\circ$. Full Scale Airspeed 180 Knots.

